

ELIKA 460

Access Control System



INSTALLATION MANUAL

ELIKA™

ACCESS SYSTEMS



While being one of the most advanced entry systems in the world, our greatest accomplishment is delivering simple systems to install, program, and operate. The Elika 460 incorporates the latest technologies to provide security, convenience and functionality. Rethink, your access control with Elika.

THE ELIKA 460

WHAT IS INCLUDED:

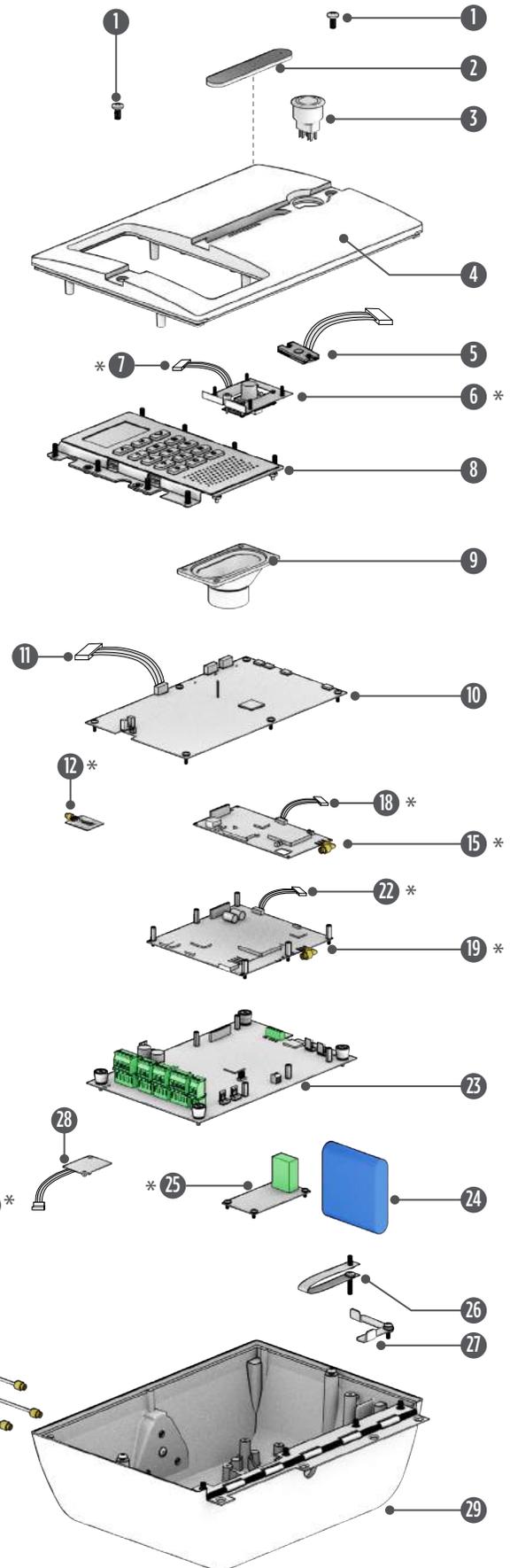


- ✓ INSTALLATION INSTRUCTION MANUAL
- ✓ SOFTWARE SETUP MANUAL
- ✓ WEB APPLICATION MANUAL
- ✓ REGISTRATION CARD
- ✓ 2 SECURITY SCREW DRIVERS
- ✓ CELL BOARD (OPTIONAL)
- ✓ VoIP BOARD (OPTIONAL)
- ✓ BLUETOOTH BOARD (OPTIONAL)
- ✓ CHARGER BOARD (OPTIONAL)
- ✓ LABELS
 - ENTER
 - CALL
 - HELP

PARTS DIAGRAM:

NOTE: * Indicates component is OPTIONAL.

1	Security Screws	EL460A-1010
2	Front Lens	EL460A-1020
3	Call Button	EL460A-1030
4	Front Housing	EL460A-1040
5	Microphone Assembly	EL460A-1050
6	Camera *	EL460A-1060
7	Camera Harness *	EL460A-1070
8	Keypad Assembly	EL460A-1080
9	Speaker	EL460A-1090
10	Front Board	EL460A-1100
11	Front Board Power Harness	EL460A-1110
12	Bluetooth Board *	EL460A-1120
13	Bluetooth Antenna *	EL460A-1130
14	Bluetooth Coaxial Cable *	EL460A-1140
15	Cell Board *	EL460A-1150
16	Cell Antenna *	EL460A-1160
17	Cell Coaxial Cable *	EL460A-1170
18	Cell Board Harness *	EL460A-1180
19	VoIP Board *	EL460A-1190
20	Wi-Fi Antenna (VoIP over Wi-Fi) *	EL460A-1200
21	WiFi Coaxial Cable (VoIP over Wi-Fi) *	EL460A-1210
22	VoIP Harness *	EL460A-1220
23	Main Board	EL460A-1230
24	Battery Pack	EL460A-1240
	Battery Backup Kit	
25	Charger Board *	EL460A-1250
26	Door Strap	EL460A-1260
27	Battery Holder	EL460A-1270
28	Courtesy Light Board	EL460A-1280
29	Main Housing	EL460A-1290
30	Antenna Cap	EL460A-1300
31	Hardware Kit	EL460A-1310
32	Fuse Kit	EL460A-1320
	Weldable Steel Mounting Plate *	EL460A-PLT



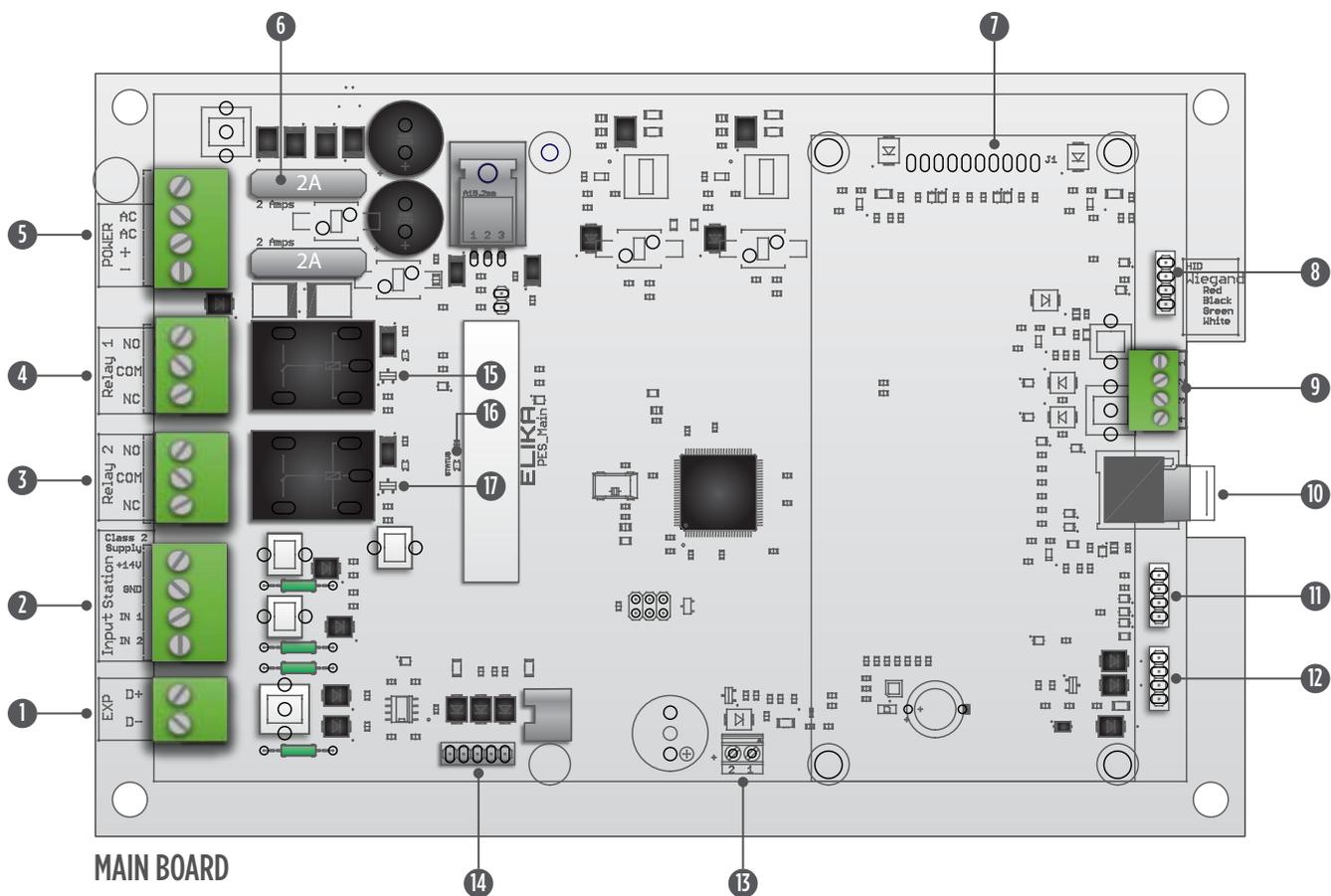
ELIKA 460 REFERENCES:



- 1 SPEAKER
- 2 KEYPAD
- 3 SECURITY SCREWS
- 4 LCD SCREEN
- 5 ANTENNA CAP
- 6 HOUSING

- 7 CALL BUTTON
- 8 DAYLIGHT SENSOR
- 9 CAMERA LIGHT SENSOR
- 10 CAMERA
- 11 FRONT LENS
- 12 MICROPHONE

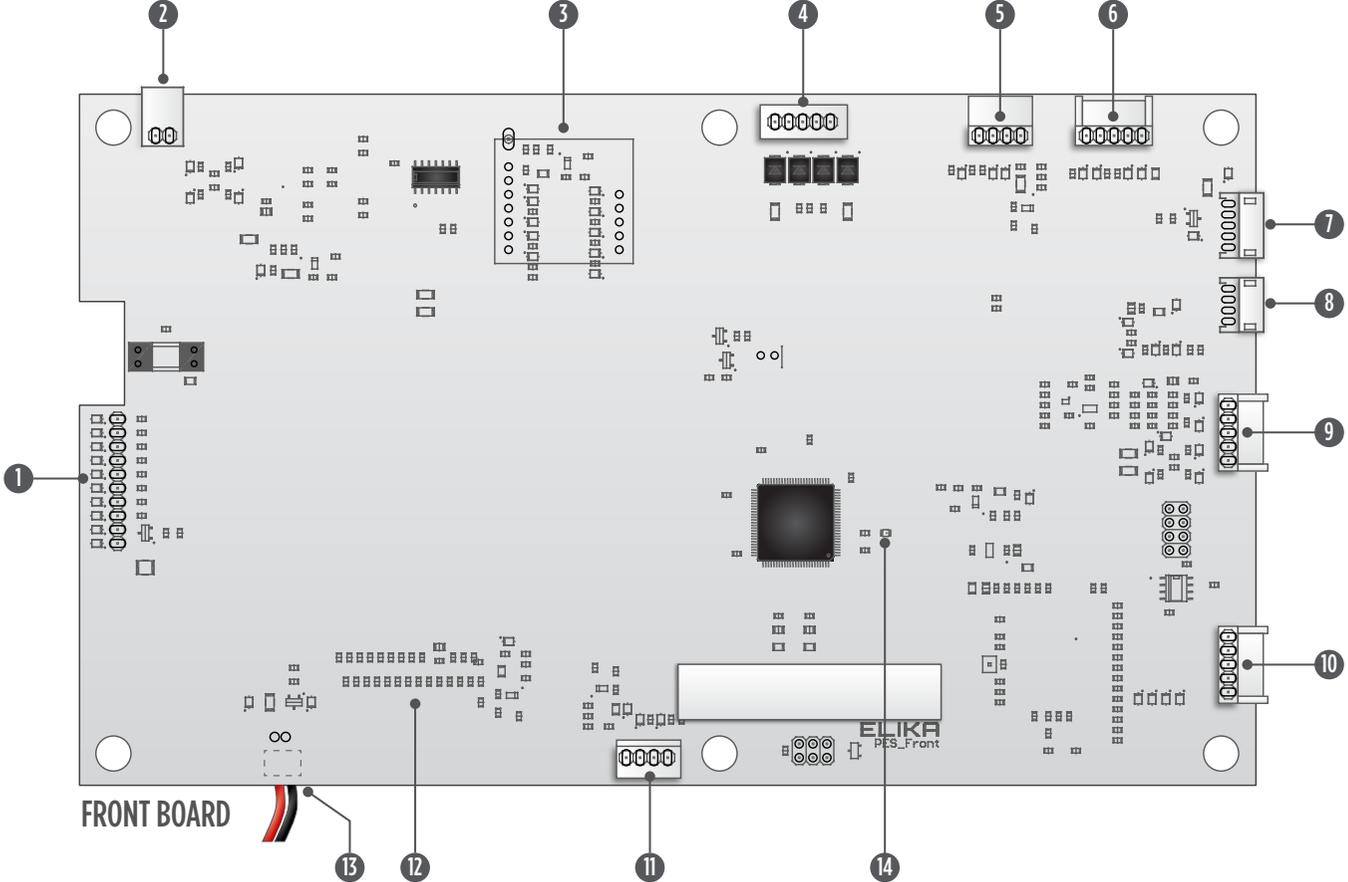
MAIN BOARD REFERENCES:



MAIN BOARD

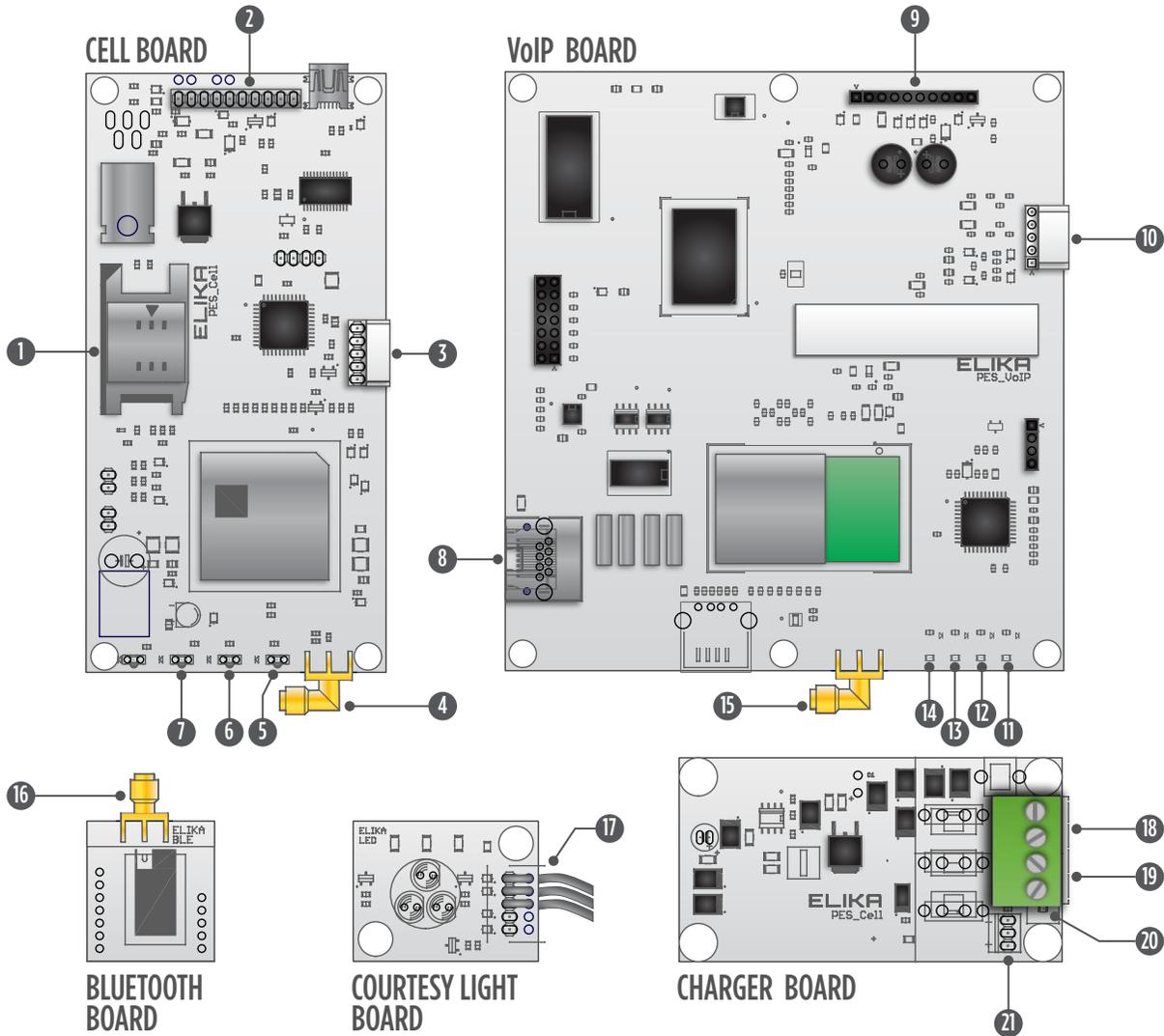
- | | | | |
|---|------------------------------|---|--------------------------------|
| ① | EXPANSION BUS | ⑩ | SD MEMORY CARD |
| ② | INPUT CONNECTOR | ⑪ | EXPANSION PORT 2 |
| ③ | RELAY 2 CONNECTOR | ⑫ | EXPANSION PORT 3 |
| ④ | RELAY 1 CONNECTOR | ⑬ | EXTERNAL ALARM CONNECTOR |
| ⑤ | MAIN POWER CONNECTOR | ⑭ | POWER CONNECTOR TO FRONT BOARD |
| ⑥ | 2A FUSE | ⑮ | RELAY 1 LED |
| ⑦ | VoIP & CELL BOARDS INTERFACE | ⑯ | POWER LED |
| ⑧ | EXPANSION PORT 1 | ⑰ | RELAY 2 LED |
| ⑨ | WIEGAND PORT | | |

FRONT BOARD REFERENCES:



- | | | | |
|---|---------------------------------|---|----------------------------|
| ① | KEYPAD CONNECTOR | ⑧ | MICROPHONE CONNECTOR |
| ② | SPEAKER CONNECTOR | ⑨ | VOIP BOARD AUDIO CONNECTOR |
| ③ | BLUETOOTH BOARD INTERFACE | ⑩ | CELL BOARD AUDIO CONNECTOR |
| ④ | POWER CONNECTOR FROM MAIN BOARD | ⑪ | EXPANSION PORT |
| ⑤ | CAMERA CONNECTOR | ⑫ | LCD RIBBON CONNECTOR |
| ⑥ | COURTESY LIGHT CONNECTOR | ⑬ | LCD BACKLIGHT CONNECTOR |
| ⑦ | CALL BUTTON CONNECTOR | ⑭ | POWER LED |

EXPANSION BOARD REFERENCES:



- | | | | |
|----|------------------------|----|-------------------------------|
| 1 | SIM CARD | 11 | DATA LED |
| 2 | INTERFACE CONNECTOR | 12 | ETHERNET LED |
| 3 | CELL HARNESS CONNECTOR | 13 | WI-FI LED |
| 4 | CELL ANTENNA CONNECTOR | 14 | POWER LED |
| 5 | DATA LED | 15 | WI-FI ANTENNA CONNECTOR |
| 6 | SIM CARD LED | 16 | BLUETOOTH ANTENNA CONNECTOR |
| 7 | POWER LED | 17 | COURTESY LIGHT CABLE |
| 8 | ETHERNET PORT | 18 | DC POWER SUPPLY INPUT |
| 9 | INTERFACE CONNECTOR | 19 | DC POWER OUTPUT TO MAIN BOARD |
| 10 | VoIP HARNESS CONNECTOR | 20 | CHARGER LED |
| | | 21 | BATTERY CONNECTOR |

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IMPORTANT SAFETY INFORMATION:

 **WARNING!** Not following these instructions may cause severe damage to the unit

GENERAL SAFETY PRECAUTIONS

The following precautions are an integral and essential part of the product and must be supplied to the user. Read them carefully as they contain important indications for the safe installation, use and maintenance.

1. These instruction must be kept and forwarded to all possible future users of the system.
2. This product must be used only for that which it has been expressly designed.
3. Any other use is to be considered improper and therefore dangerous.
4. The manufacturer cannot be held responsible for possible damage caused by improper, erroneous or unreasonable use and/or installation.
5. In case of break down or malfunctioning of the product, disconnect from the main power source. Do not attempt to repair or intervene directly, contact only qualified personnel for repair.
6. Failure to comply with the above may create a situation of danger.
7. All cleaning, maintenance or repair work must be carried out by qualified personnel.

All installation, maintenance and repair work must be documented and made available to the user.

IMPORTANT INSTALLATION INFORMATION

FOR CELL MODULE INSTALLATIONS

- ✓ Verify the coverage area map from AT&T by visiting www.att.com
- ✓ Verify the reception sensitivity with AT&T by visiting www.att.com
- ✓ Install the unit so it can receive proper carrier signal
See Appendix C on Page 32-33

FOR VoIP MODULE INSTALLATIONS

Ethernet Installation

- ✓ Do not use a cable longer than 400 feet
- ✓ Use a continuous length of cable, do not splice
- ✓ Properly test the cable after installation
See VoIP Over Ethernet Setup on Page 22

Wi-Fi Installation

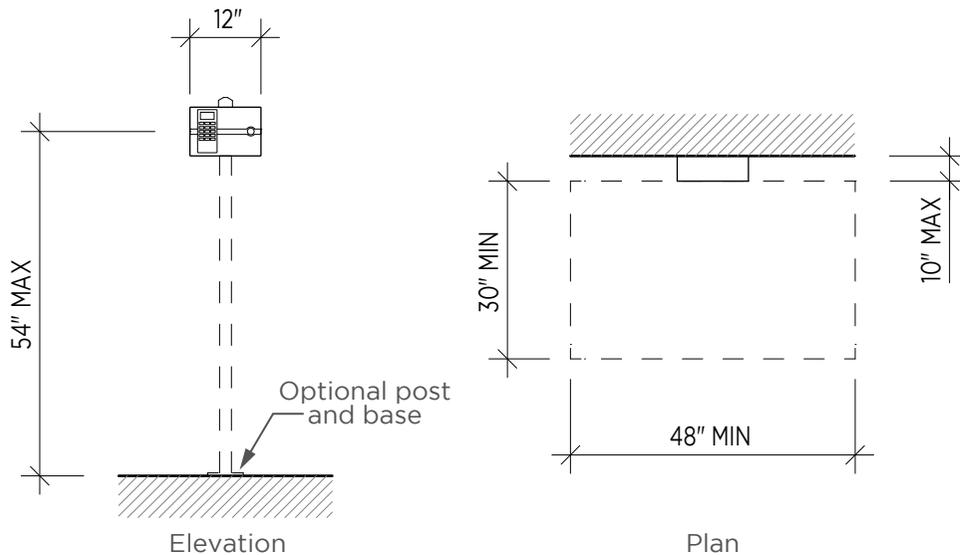
- ✓ Verify a strong signal strength at the installation location
See VoIP Over Wi-Fi Connectivity Setup Using Android on Page 21
See VoIP Over Wi-Fi Connectivity Setup Using Apple on Page 22

IMPORTANT INSTALLATION INFORMATION:

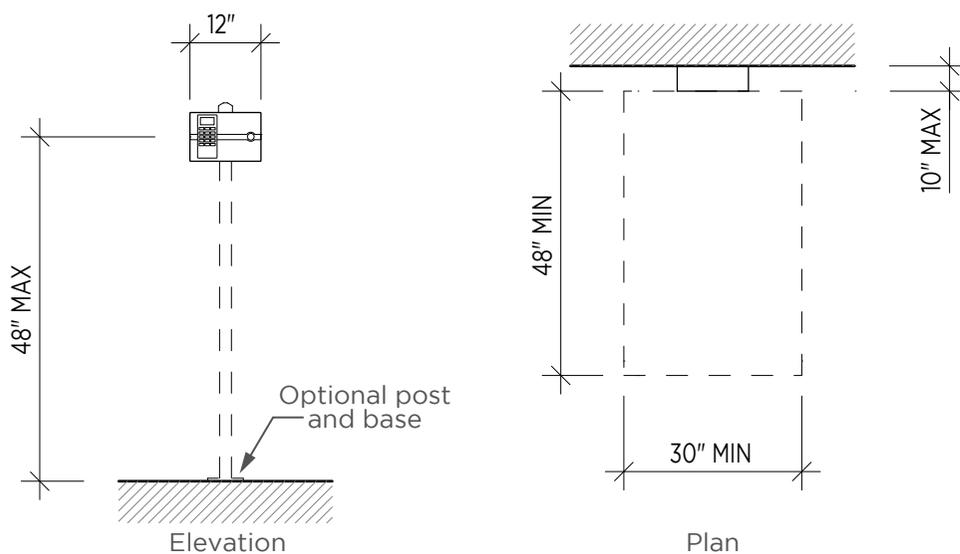
 **WARNING!** Not following these instructions may cause severe damage to the unit

IMPORTANT INFORMATION FOR PEDESTRIAN DOOR ACCESS CONTROL

When a communication system is used in a public building or business to lock the entry, ADA mandates specific requirements for the installation height of the unit. The unit should be located no higher than 48-54 inches above the finished floor, which will differ depending on its orientation (see illustrations below). The unit should not protrude more than 4 inches into the path of travel of the user. A comfortable clearance space in front of the unit should also be provided for all those wishing to access the building.



a) Side Reach Dimensions



b) Forward Reach Dimensions

IMPORTANT INSTALLATION INFORMATION:

⚠ WARNING! Not following these instructions may cause severe damage to the unit

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

EXCEPTIONS:

1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

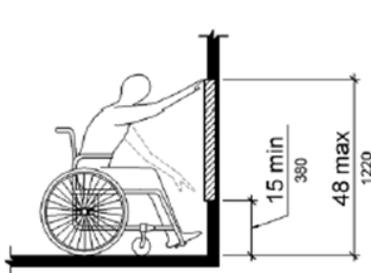


Figure 308.2.1 Unobstructed Forward Reach

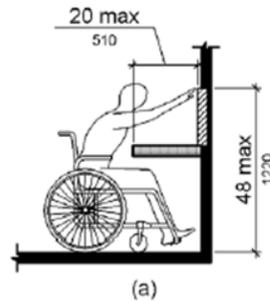


Figure 308.2.2 Obstructed High Forward

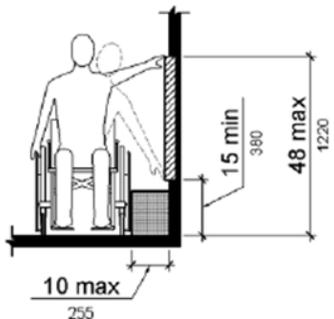
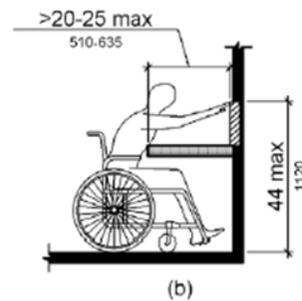


Figure 308.3.1 Unobstructed Side Reach

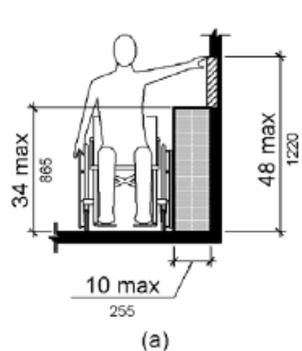
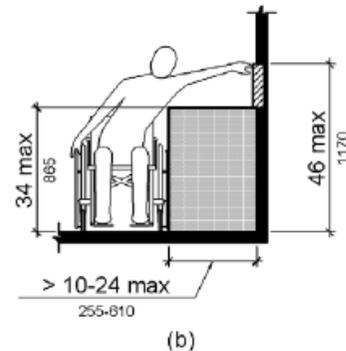


Figure 308.3.2 Obstructed High Side Reach



IMPORTANT INSTALLATION INFORMATION:

 **WARNING!** Not following these instructions may cause severe damage to the unit

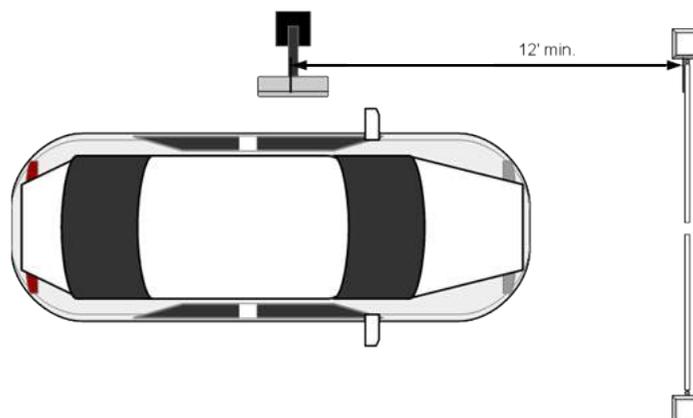
IMPORTANT INFORMATION FOR VEHICULAR GATE ACCESS CONTROL

DONT'S

- ✗ Don't install the Elika access system so that user vehicles are in the path of the moving gate.
- ✗ Don't install the Elika access system in such a way that the controls are blocking the vehicular pathways or force pedestrian traffic into vehicular pathways.
- ✗ If wireless communication is used, don't mount the Elika access system behind or near concrete or metallic walls.
- ✗ Don't mount the Elika access system away from the driver's reach.

DO'S

- ✓ Install the Elika access system within safe reach of the vehicles driver.
- ✓ If wireless communication is used, verify the signal strength before installation, then install the Elika access systems in an accessible location that will maximize signal strength from the carrier provider.
- ✓ If the unit is going to be flush mounted, remove the antenna cap and antennas and locate the antennas so they can be exposed and obtain proper signal strength.
- ✓ Install the Elika access system in a way that will be accessible to vehicles of various heights.
- ✓ The Elika access system must be a minimum of 12 feet away from the moving gate.



GENERAL SPECIFICATIONS:

SPECIFICATIONS:

RELAY OUTPUT:

Two relay outputs
Single Pole Double Throw (SPDT)
Contact Rated: 10 Amps @ 120 VAC
Surge Protected Contact

ALARM OUTPUT:

12VDC 250mA power source

INPUT:

Two Inputs
Surge protection up to 10KV-20KA

WIEGAND INPUT:

Standard 26 bit wiegand input

ELECTRICAL RATINGS:

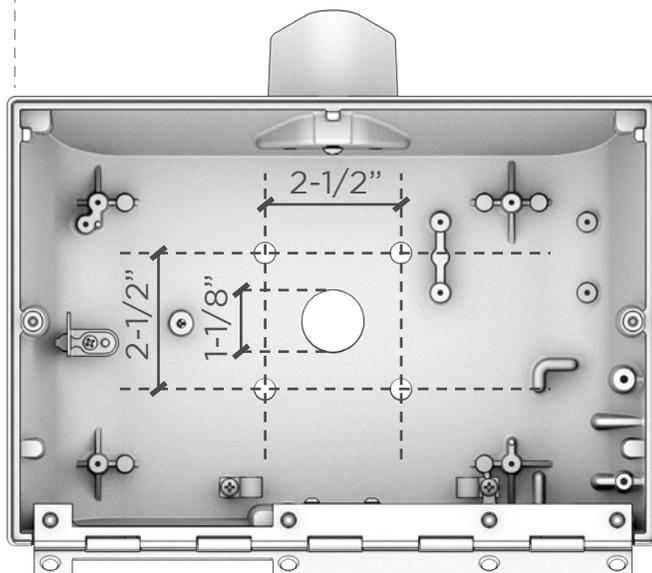
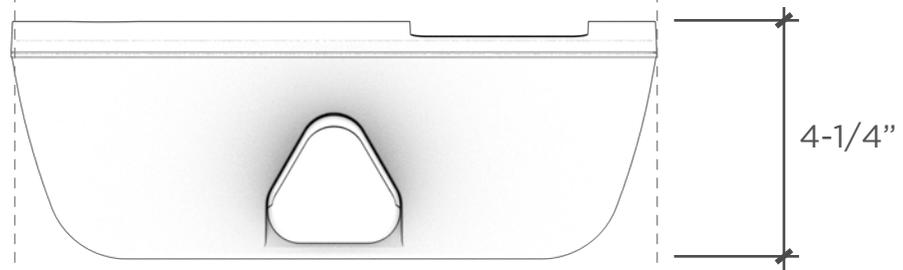
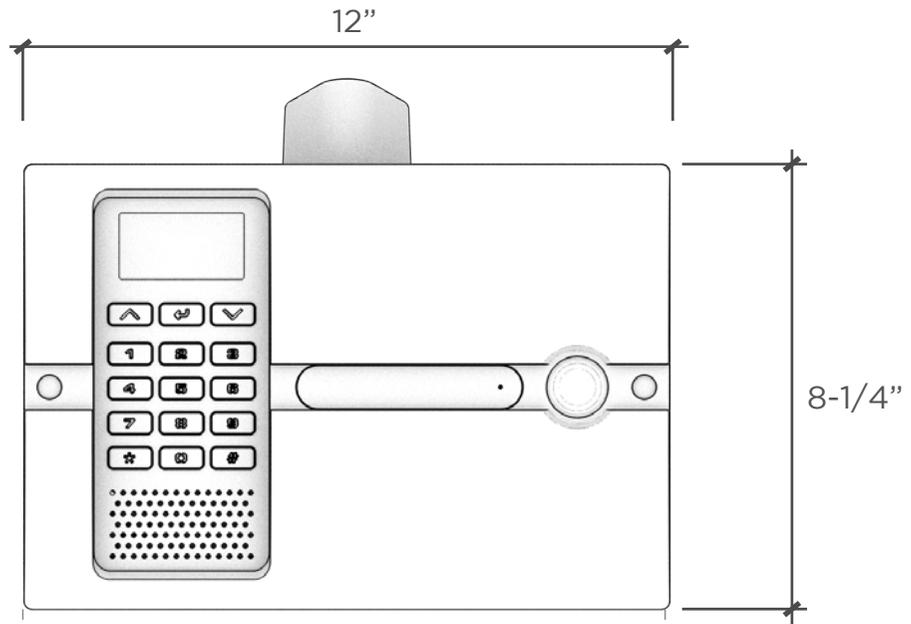
OPERATING VOLTAGE:

12-16 Volts AC/DC (12 watts)
1A plug in transformer
12V Solar Panel
7.4V 4Ahr Battery Pack (optional charger required)

OPERATING CURRENT:

Cell Module Option - 300mA during operation
VoIP Module Option - 300mA during operation
Camera Option - 200mA during operation

PHYSICAL DIMENSIONS:



HOUSING INSTALLATION:

Note: Recommended locations and wiring methods should be in accordance with the National Electrical Code, ANSI/NFPA 70.

1. WIRE PREPERATION

Prepare all of your

- a) Power cables
- b) Control cables (shielded cable recommended)
- c) External coaxial cables, if the installation requires
- d) Ethernet cables for VoIP
- e) Shielded twisted pair wires for Wiegand Interface

Leave extra wires if possible for future expansions or replacements.

2. MAIN BOARD REMOVAL

Remove the Main Board from the Main Housing

- a) Disconnect all connections to the Main Board and make note of them (you will need to reconnect them all again)
- b) Loosen the screws mounting the Main Board

See Figure 15.1

3. ANTENNA INSTALLATION

If you need to install antennas to the Elika access system

- a) Remove the antenna cap
- b) Install the coaxial cables provided for the antennas. Keep in mind that the Cellular antenna must be at the front (this antenna is the longest and uses the right angle coaxial cable)
- c) Reinstall the antenna cap

See Figure 15.2

4. CABLE ROUTING

Route the cables through the mounting surface

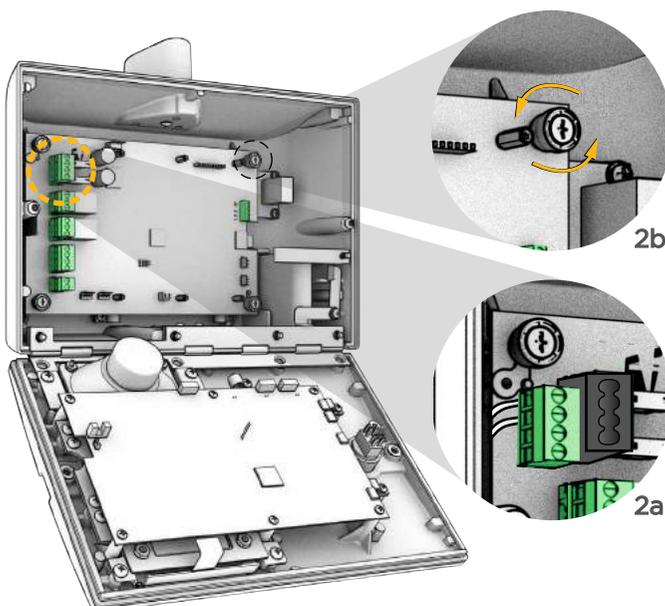


Figure 15.1 - Main Board Removal

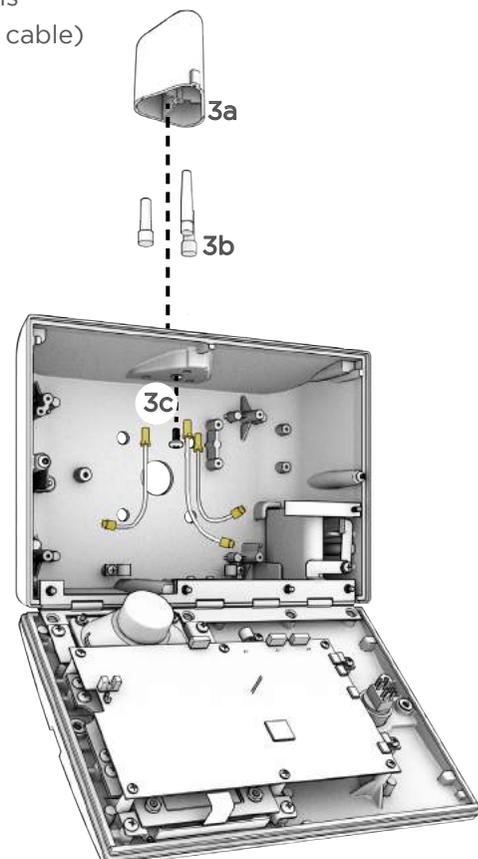


Figure 15.2 - Antenna Installation

HOUSING INSTALLATION:

5. TELEPHONE ENTRY SYSTEM INSTALLATION

Secure the telephone entry system using the bolts, nuts, and seal washers provided
See Figure 16.1

6. REINSTALL

Reinstall the Main Board
See Figure 16.2

7. COAXIAL CONNECTION

Connect your coaxial cable (from the antenna) to your respective wireless module

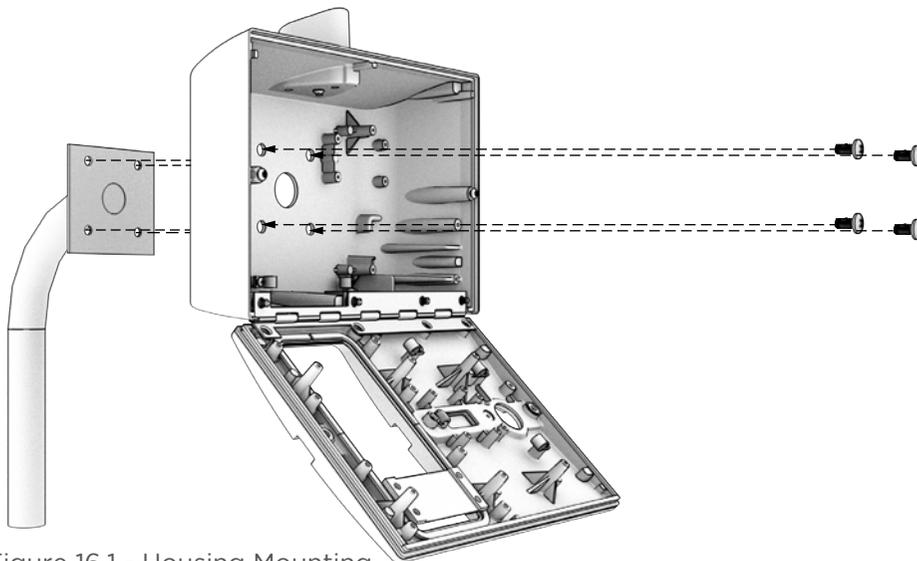


Figure 16.1 - Housing Mounting

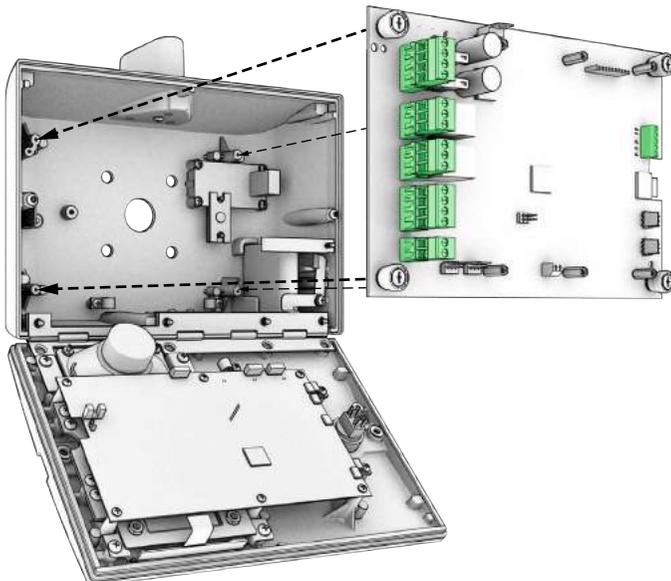


Figure 16.2 - Main Board Installation



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 **IMPORTANT!** Refer to: **Appendix A** - for a full electrical diagram

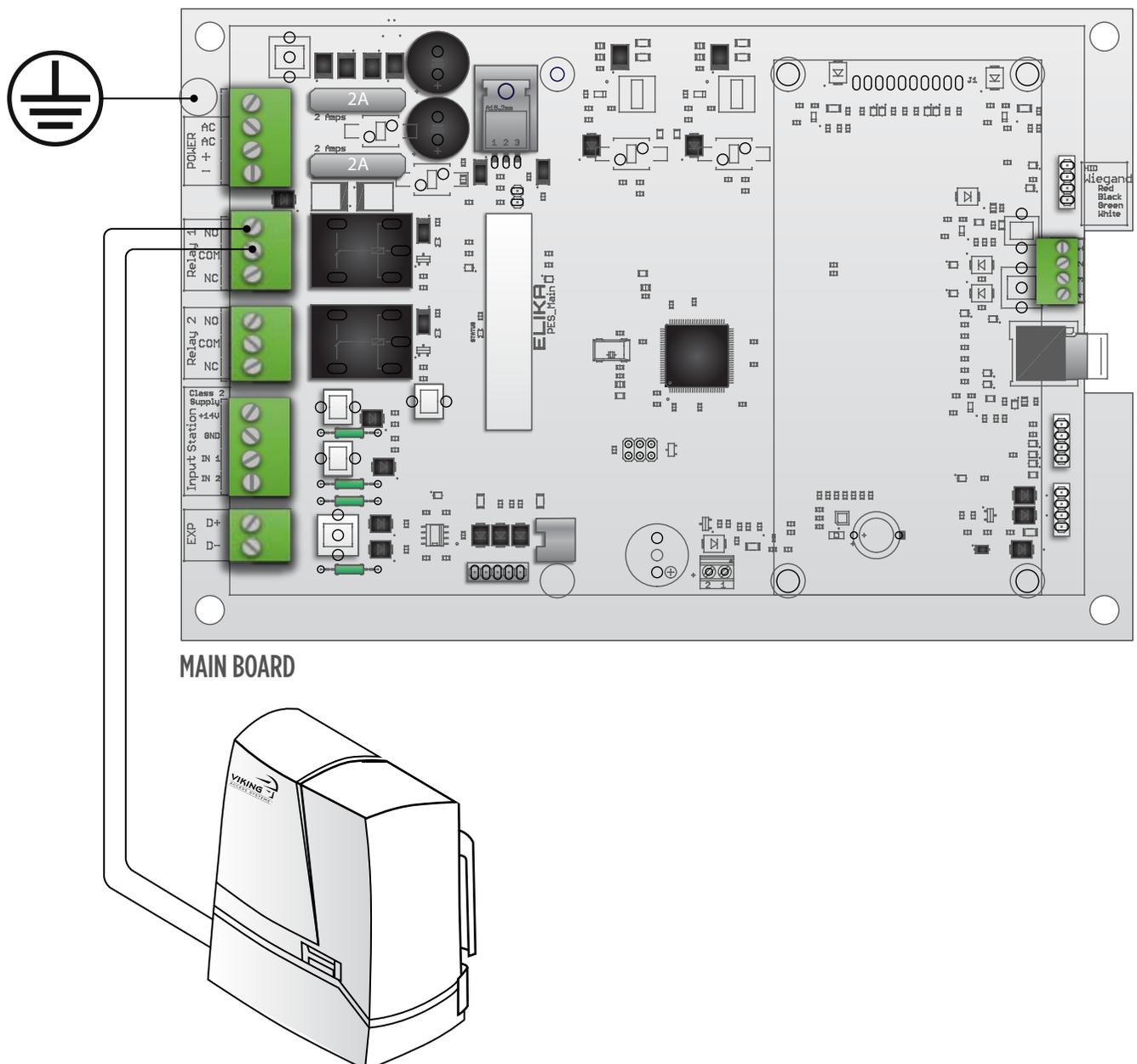
1 GROUNDING INSTALLATION

To minimize the effects caused by lightning, follow these guidelines.

- Use a ground rod to provide a ground reference.
- Consult your city code and be aware of under-ground services in the site of the Elika access system to prevent inconveniences.
- Always use a single bonding point for grounding.
- All ground wires must be as short and as thick as possible.
- Prevent unnecessary turns or loops in all ground wires.

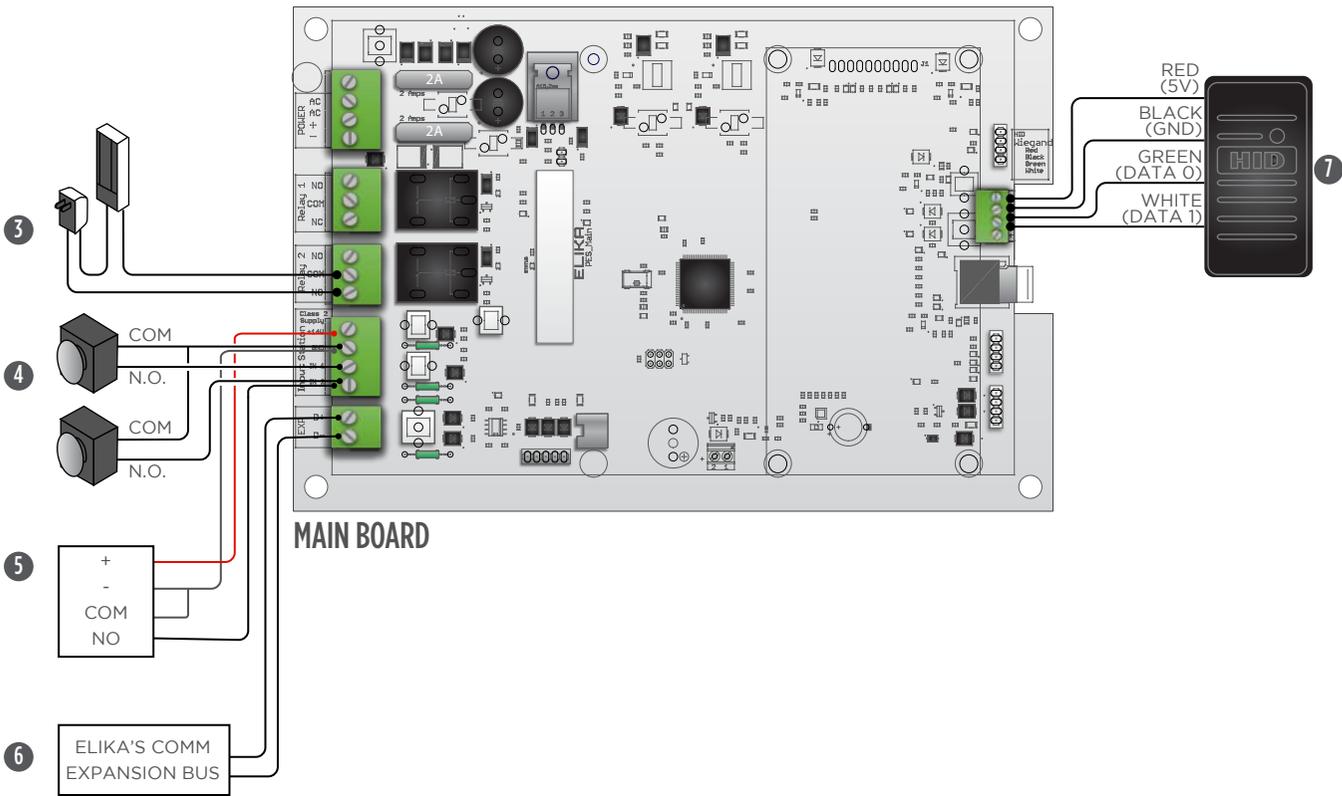
2 RELAY OUTPUT 1 CONNECTION

Connect your Relay Output 1 to your gate operator using the COM and NO contacts



ELECTRICAL INSTALLATION:

! IMPORTANT! Refer to: **Appendix A** - for a full electrical diagram



3 RELAY OUTPUT 2 CONNECTION

Connect the Relay Output 2 to additional devices such as magnetic locks or door strikes

- Use the COM and NC for magnetic locks
- Use the COM and the NO for door strikes

4 INPUT CONNECTIONS

Connect the inputs for dedicated purpose into the Input Station Connector

5 EXTERNAL DEVICE CONNECTION

Connect the external device to the Input Station as follows

NOTE: That the external device will need to be a 12V external device

6 EXPANSION BUS CONNECTIONS

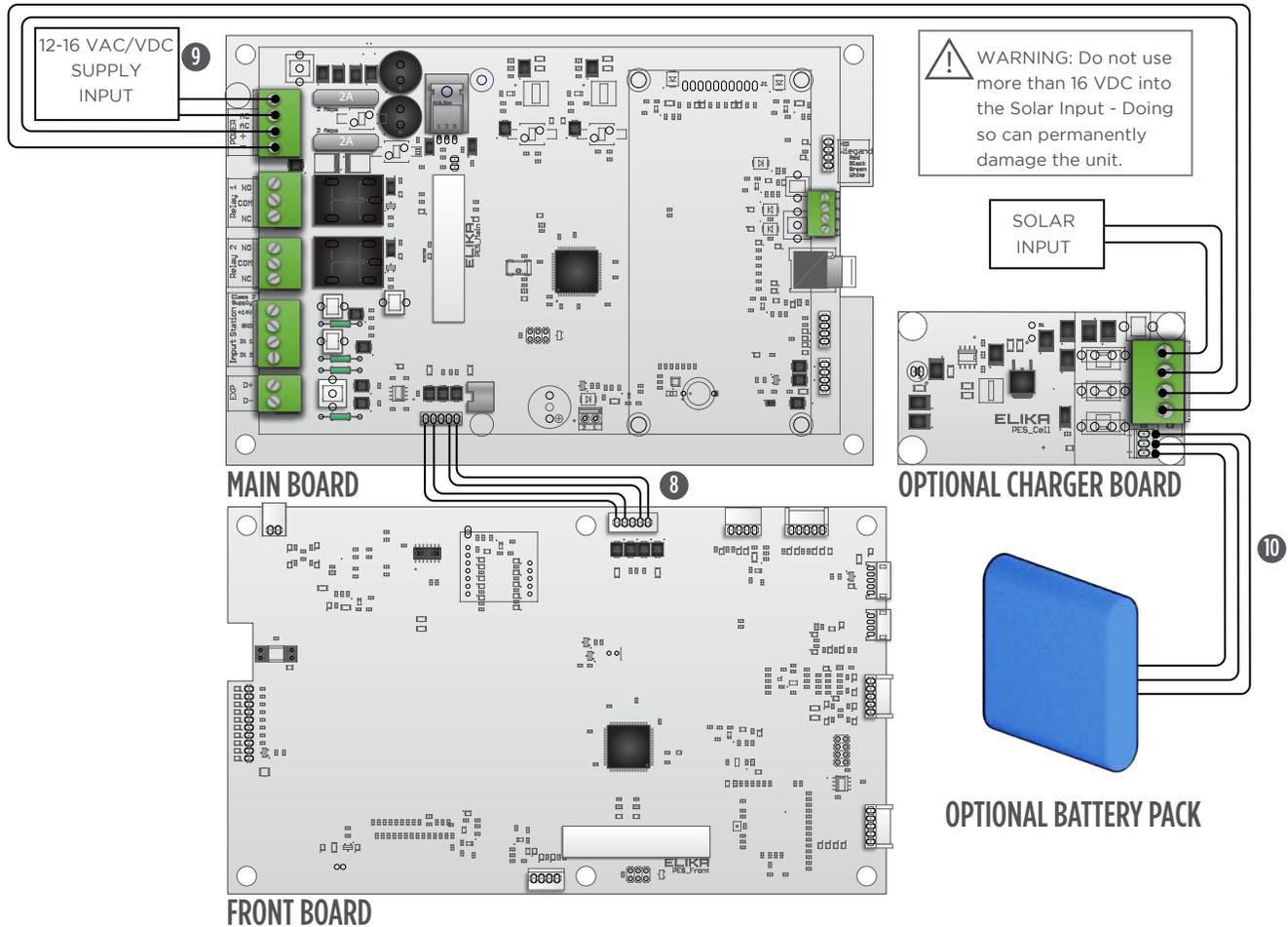
Connect the Expansion Bus wires to D+ and D- for additional Elika devices control

7 WIEGAND DEVICES CONNECTIONS

Connect the Wiegand devices to the Wiegand Connector

ELECTRICAL INSTALLATION - POWER SUPPLY:

! IMPORTANT! Refer to: **Appendix A** - for a full electrical diagram
Appendix B - for battery selection, solar panel selection,
and alternative power supply installations



8 FRONT BOARD POWER HARNESS CONNECTION

Connect the power harness between the Main Board and the Front Board

9 POWER SUPPLY CONNECTIONS

Connect your power supply wires to the Power Terminal Block.

Recommended power supplies are:

12-16 Volt AC/DC

12VAC plug-in transformer

Verify that the power LED is illuminated on the Main and Front Boards.

10 BATTERY PACK CONNECTIONS

If you have chosen to use the battery charger and battery pack with a 12V solar panel:

- Connect the battery pack to the charger
- Connect the solar panel to the Input, be careful about polarity of the wires
- Connect the "Load" wires from the Charger board to the "Power" connector on the Main Board.

CAUTION: These connections are polarity sensitive.

VoIP OVER Wi-Fi CONNECTIVITY SETUP:

VoIP OVER Wi-Fi CONNECTIVITY SETUP USING ANDROID DEVICES

1. Enter the master code on the Keypad and press the # key
2. Select "VoIP Settings" by pressing "enter" 
3. Scroll down to "Use Wi-Fi" and select this option by pressing "enter" 
4. The display will show "Connecting..."
5. Download the Elika Wi-Fi App
6. Open the Elika Wi-Fi App
7. Click on "Setup Elika Device"
8. Select the Unit Model that you want to setup
9. Select the Serial Number of the unit you are setting up (the serial number is locate in registration card)
10. Enter the password for the Elika unit: A unique password is provided with your VoIP Module
11. Wait for connection
12. The app will connect to the unit
13. Select "Next Step"
14. Select the Wi-Fi network you want to connect to
15. Enter the password of the Wi-Fi network selected
16. Wi-Fi Set-up completed
 - a) The Elika unit will connect to the Wi-Fi network and to the Elika Server
 - b) All 4 LEDS in the VoIP board will illuminate

VoIP OVER Wi-Fi CONNECTIVITY SETUP:

VoIP OVER Wi-Fi CONNECTIVITY SETUP USING APPLE DEVICES

1. Enter the master code on the Keypad and press the # key
2. Select "VoIP Settings" by pressing "enter" 
3. Scroll down to "Use Wi-Fi" and select this option by pressing "enter" 
4. The display will show "Connecting..."
5. Download the Elika Wi-Fi App
6. Open the Elika Wi-Fi App
7. Click on "Setup Elika Device"
8. Follow the instruction in these three steps
 - a) Step 1 Leave the App and go to "settings" on your phone
 - b) Step 2 Select the Elika Wi-Fi from the Wi-Fi Setting
 - c) Elika-460-xxxx (serial Number of the device you are setting up, the serial number is locate in registration card)
 - i) Enter the password to join this network,
 - A unique password is provided with your VoIP Module
 - ii) Wait for connection...
 - d) Step 3 Return to the App and click "Next"
 - i) The App will connect to your Elika device
 - ii) Once connected you will get a "Success" message
9. Click "Next Step"
10. Select the Wi-Fi network you are connecting to
11. Enter the password of the Wi-Fi network selected
12. Wi-Fi Set-up completed
 - a) The Elika unit will connect to the Wi-Fi network and to the Elika Server
 - b) All 4 LEDS in the VoIP board will be illuminated
13. Note: You can now go back to "settings" on your phone to restore your preferred Wi-Fi network

VoIP OVER ETHERNET SETUP

1. Make sure you already have an Ethernet cable connected the VoIP module and that the cable has Internet connectivity
2. Enter the master code on the Keypad and press the # key
3. Select "VoIP Settings" by pressing "enter" 
4. Scroll down to "Use Eth Cable" and select it by pressing "enter" 
5. Your Ethernet cable VoIP Set-up is completed
 - a) The Elika unit will connect to the Wi-Fi network and to the Elika Server
 - b) All 4 LEDS in the VoIP board will be illuminated

TROUBLESHOOTING:

LED REFERENCES

The following table describes the meaning of the various LEDs on the Elika 460 unit. In the event you do not have the LEDs at the normal condition after power up and few minutes of initialization, then make sure all the wire harnesses are properly connected, make sure the antennas are properly connected and recycle the power of the unit. If the problem persists, consult with technical support.

LED	STATUS	MEANING
Main Board LED	Off	There is no power
	3 Blinks	Power-up reset
	Blinking	Firmware upgrade or programming
	Solid	Normal condition
Front Board LED	Off	There is no power
	3 Blinks	Power-up reset
	Blinking	Firmware upgrade or programming
	Solid	Normal condition
Cell Module PWR LED	Off	There is no power or just got reset
	Blinking	Power-up reset
	Solid	Normal condition
Cell Module SIM LED	Blinking	SIM card Missing or not recognized
	Solid	Cell Module is ON; normal condition
Cell Module DATA LED	Off	Not connected to Elika Server
	Solid	Connected to Elika server; normal condition
VoIP Module PWR LED	Off	There is no power or just got reset
	Blinking	Power-up reset
	Solid	Normal condition
VoIP Module Wi-Fi LED	Blinking	Wi-Fi module is initializing
	Solid	Wi-Fi module is ready; normal condition
VoIP Module ENET LED	Blinking	Connecting to SIP server
	Solid	Connected to SIP server; normal condition
VoIP Module DATA LED	Solid	Connected to Elika server; normal condition
Charger LED	Off	No charging power
		If you have charging power, LED off indicates the battery is fully charged
	Blinking	Battery is reaching its fully charge state
	Solid	Battery is charging

TROUBLESHOOTING

Please check your Web App settings and programming. After doing so use this table as guide line

SYMPTOM	POSSIBLE CAUSE	RESOLUTION
LCD not displaying	LCD cable disconnected	Connect properly the LCD flat cable to the Front Board
LCD backlight working	LCD backlight cable disconnected	Connect the properly the not working LCD backlight connector to the Front Board
	Initialization required	Make sure all harnesses are properly connected and recycle the power of the unit.
Keypad not working	Keypad cable disconnected	Connect properly the Keypad cable to the Front Board
Keypad backlight not working	Keypad cable disconnected	Connect properly the Keypad cable to the Front Board
Front Button not working	Front Button harness disconnected	Connect the Front Button harness to the Front Board
Front Button backlight not working	Front Button harness disconnected	Connect the Front Button harness to the Front Board
Speaker not working	Speaker disconnected	Connect the speaker to the Front Board
	Initialization required. Recycle Power, turn off and then turn on gain.	Make sure all harnesses are properly connected and recycle the power of the unit.
Microphone not working	Microphone disconnected	Connect the microphone to the Front Board
	Initialization required. Recycle Power, turn off and then turn on gain.	Make sure all harnesses are properly connected and recycle the power of the unit.
Courtesy Light not working	Courtesy Light disconnected	Connect the courtesy light to the Front Board
Camera not working	Camera disconnected	Connect the camera to the Front Board
	Initialization required. Recycle Power, turn off and then turn on gain.	Make sure all harnesses are properly connected and recycle the power of the unit.

TROUBLESHOOTING:

SYMPTOM	POSSIBLE CAUSE	RESOLUTION
No power to the unit	Blown Fuses	Replace the fuses
	Wrong polarity connections	Ensure that you have proper polarity in all your connections
	No power source	Check your power source for proper operation and proper connections
Gate or Door hold open	Programming	Check your Web App and verify your programming settings
	7-Day timer	Clear or update your 7-day timer settings
	Latch Code	Enter the proper latch code to close again
	Wiring	Verify all your wiring connections
Inputs are not working	Programming	Check your Web App and verify your programming settings
	Wiring	Verify all your wiring connections
12V output not working	Possible short	Undo all your power connections and verify for shorts on every single device connected
Names not appearing in the LCD display	Records have not synced from the cloud to the unit	On the dashboard, "sync phone system to update recent changes. Only Phone codes changes. Only Phone codes with "Display names" will appear on the LCD display. Check your Web App settings
	SD Card Missing	Verify the SD card is in place and properly inserted
	Initialization required. Recycle Power, turn off and then turn on gain.	Make sure all harnesses are properly connected and recycle the power of the unit. NOTE: if the SD card is properly recognized, you will hear two beeps upon power up sequence

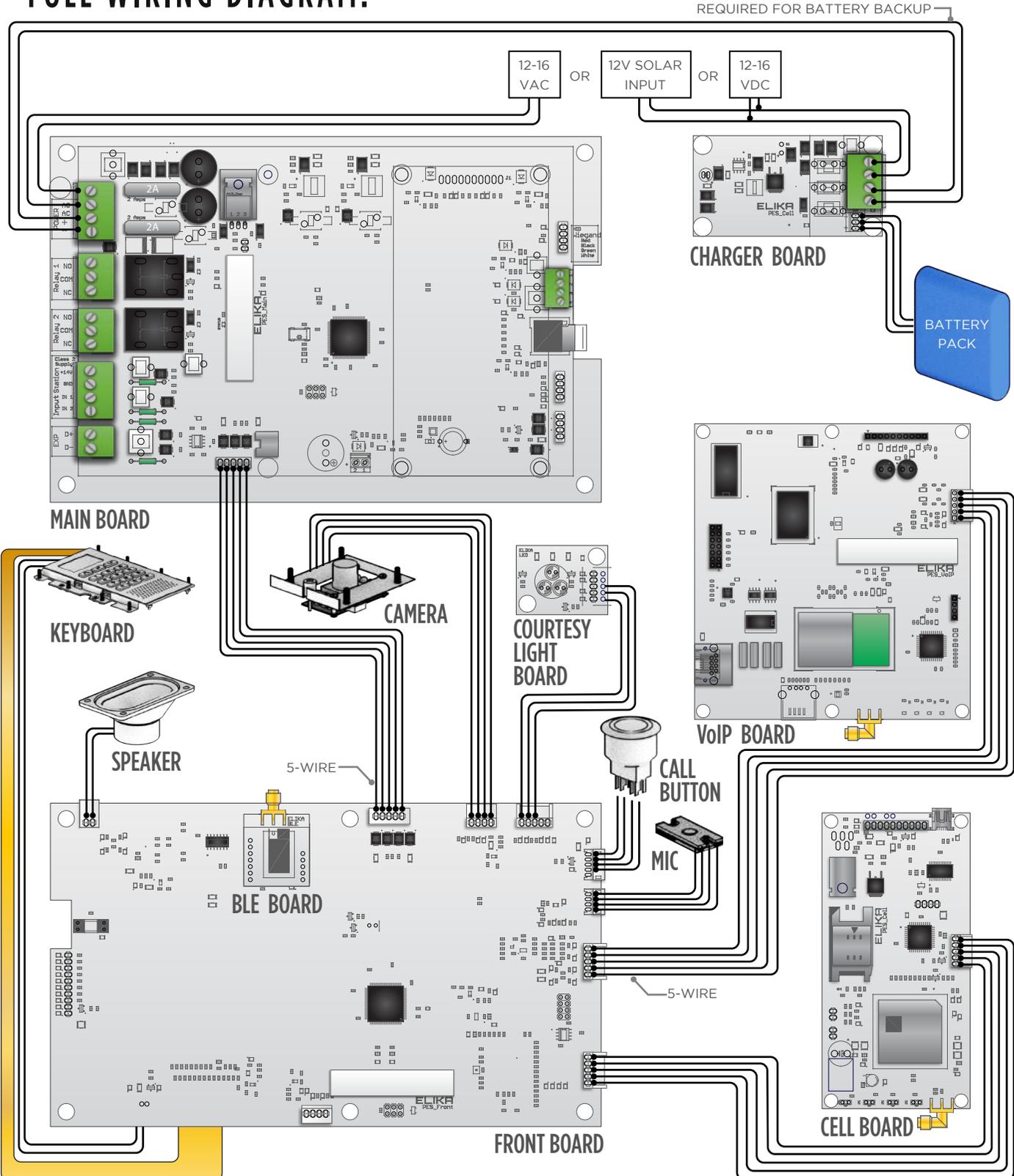
TROUBLESHOOTING:

SYMPTOM	POSSIBLE CAUSE	RESOLUTION
Wiegand Device not Working	Wrong Wiegand device	Verify your device is a 26-bit Wiegand device with 3 digit for facility code and 5 digits for ID
	Data 0 and/or Data 1 not properly connected	Verify your connections from your Wiegand device. Front view from top to bottom: +5V GND Data 0 Data 1
	Wrong power to your Wiegand device	Verify and apply the proper voltage to your Wiegand device
	Wiegand codes not properly programmed	Check your Web App and verify the proper code being programmed. Use the History to check the code received by the unit for verification purposes
LCD Screen always displays "Connecting..."	Elika unit failing to connect to Elika DNS	Verify Elika unit and Elika Web app are pointing to the same DNS.

APPENDIX A:

- ⚠ IMPORTANT! Do not use more than 16 VDC into the Solar Input - Doing so can permanently damage the unit.
- ⚠ IMPORTANT! The load output is polarity sensitive as well as the DC input of the main board. Make sure to wire them with the proper polarity.

FULL WIRING DIAGRAM:



-  **IMPORTANT!** Do not use a solar panel bigger than 12V, failure to do so may permanently damage your unit.
-  **IMPORTANT!** The load output is polarity sensitive as well as the DC input of the main board. Make sure to wire them with the proper polarity.

BATTERY AND SOLAR PANEL INFORMATION:

BATTERY SELECTION

- The Battery Pack is sold separately.
- Use only UL recognized 7.4V Battery Pack with 18650 battery type
- 5.2Ah Maximum battery capacity.

BATTERY CARE

- Do **NOT** disassemble or modify the battery pack.
- Do **NOT** pierce the battery pack.
- Do **NOT** strike or throw the battery pack.
- Do **NOT** use a visibly damaged or deformed battery pack
- Do **NOT** directly solder the battery pack
- Do **NOT** use the battery pack for a purpose other than those specified.
- Failure to follow the above guidance can result in leakage, overheating, smoke emission, bursting and/or ignition of the battery pack.
- Do **NOT** dispose of the battery in fire. The cells may explode. Check with local codes for possible disposal instructions.
- Do **NOT** use or leave the battery pack near or on a hot surface or object such as a fire or a heater (+80°C or higher). If the resin separator should be damaged due to overheating, internal short-circuiting may occur to the battery pack, possibly leading to leakage, smoke emission, bursting and/or ignition of the battery pack.
- Do **NOT** immerse the battery pack in water or seawater and do not allow it to get wet. Otherwise, the protective features in it can be damaged, which can cause it to be charged with an extremely high current and voltage, abnormal chemical reactions may occur, possibly leading to leakage, smoke emission, bursting and/or ignition.
- Do **NOT** open or manipulate the battery pack. Released electrolytes are corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.
- Exercise care in handling batteries in order not to short the battery with conducting materials such as rings, bracelets and keys.
- CAUTION - A battery can present a risk of electrical shock or burn from high short circuit current, fire or explosion from vented gases. Observe proper precautions.
- Observe proper polarity orientation between the battery and charging circuit.

SOLAR PANEL SELECTION

- Solar panel(s) are sold separately.
- Use only UL Listed 12V solar panel(s), such as Elika part #s:

WATTAGE	ELIKA PART#	OPEN-CIRCUIT VOLTAGE	SHORT-CIRCUIT CURRENT
20 Watts	VA-SO20W	21.7V	1.25A
40 Watts	VA-SO40W	21.8V	2.57A

APPENDIX B:

-  **IMPORTANT!** Do not use more than 16 VDC into the Solar Input - Doing so can permanently damage the unit.
-  **IMPORTANT!** The load output is polarity sensitive as well as the DC input of the main board. Make sure to wire them with the proper polarity.

BATTERY AND SOLAR PANEL INFORMATION:

SOLAR PANEL CARE AND LOCATION

- Put in a place where it will receive maximum sunlight throughout the year.
- Avoid trees, buildings and other obstructions, which could cast shadows on the panel.
- South facing and tilted at an inclined angle that is equal to latitude.
- If dirt build-up becomes excessive, clean the glass with a soft cloth using a mild detergent and water.

INSTALL SOLAR PANELS IN THE FOLLOWING CONDITIONS

- Operating temperature: -40°F to 185°F
- Humidity: Below 85RH%
- Wind pressure: Below 50.12lb / ft² (2400Pa)
- Snow load pressure: Below 112.76lb / ft² (5400Pa)
- Do **NOT** install the solar panel near open flames or flammable materials.
- Do **NOT** install the solar panel where there is a risk of being immersed in water or continually exposed to water from a sprinkler, fountain, etc.

SOLAR PANEL INSTALLATION (per article 690 of ANSI/NFPA 70)

- Use appropriate methods to mount the solar panel. Fall of the panel from high places may cause death, injury or damage.
- The solar panel must be mounted on a post with a supporting structure to support wind and snow loads rated for use by the appropriate local or civil codes.
- Use stainless steel washers between the panel and the supporting frame to prevent electrolysis corrosion.
- Use conduit and the appropriate wire type for outdoor applications.
- Properly ground solar panel and operator according to NEC code.
- Use the appropriate wire size according to distance and the maximum power (Watt) rating of the solar panel, or panels combined.
- Use at least 16 AWG photovoltaic cable or 90°C, sunlight and moisture resistant direct burial cable or better.

-  **IMPORTANT:** With solar power, operational consistency of this unit is dependant on many factors, including the type and quantity of wireless communication options installed, amount of daily usage, local solar radiation data, solar panel and battery size.
If more specific information is needed please consult with Elika Access Systems. For more information regarding solar energy refer to: <http://rredc.nrel.gov/solar/pubs/redbook/>

- ⚠ IMPORTANT! The Charger Board is required for battery backup applications. Always ensure that correct polarity is followed where indicated by + and -
- ⚠ IMPORTANT! Do not use more than 16 VDC into the Solar Input - Doing so can permanently damage the unit.
- ⚠ IMPORTANT! The load output is polarity sensitive as well as the DC input of the main board. Make sure to wire them with the proper polarity.

BATTERY BACKUP INSTALLATION:

1. **PREPARE THE MAIN BOARD**
 - a) Remove the power connector from the Main board
 - b) Remove the Main Board
See Figure B.1

2. **PREPARE THE CHARGER BOARD**
 - a) Install the Charger Board onto the Main Housing, using the screws provided
See Figure B.2
 - b) Connect a pair of wires to the "LOAD" terminals on the Charger Board.
Note: These wires will be connected to the Main Board
See Figure B.2
 - c) Reinstall the Main Board
See Figure B.1
 - d) Connect the "LOAD" wires from the Charger Board to the "POWER" Connector on the Main Board.
See Figure B.1

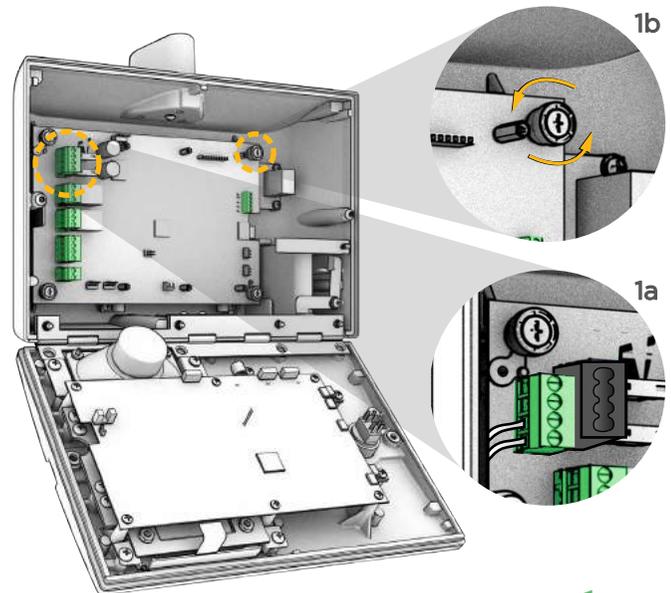


Figure B.1 - Main Board

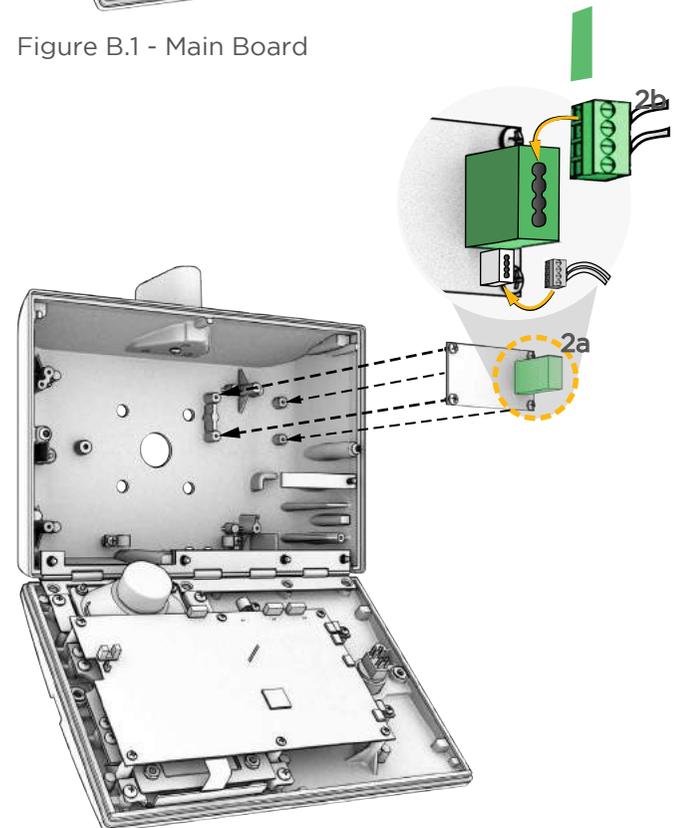


Figure B.2 - Installing the Charger Board

APPENDIX B:

- ⚠ IMPORTANT! Do not use more than 16 VDC into the Solar Input - Doing so can permanently damage the unit.
- ⚠ IMPORTANT! The load output is polarity sensitive as well as the DC input of the main board. Make sure to wire them with the proper polarity.

BATTERY BACKUP INSTALLATION:

3. BATTERY PACK CONNECTION

- a) Place the Battery Pack in the designated storage area in the Main Housing
See Figure B.3 & B.4
- b) Connect the battery pack to the Charger Board.
Note: The connector is polarity protected, do not force the connection.
See Figure B.4

4. POWER SUPPLY

- a) Connect an AC transformer (supplied) to the Main Board "POWER AC" terminals
See Figure B.5
- b) or Connect a DC power source or a 12V Solar panel to the Charger Board "INPUT + and -" terminals. These are polarity sensitive connections.
See Figure B.5

5. VERIFY THE WIRING INSTALLATION

- a) Verify that the POWER LED is illuminated solid on the Main Board.
- b) Verify that the CHARGE LED is illuminated solid on the Charger Board. If battery is fully charged the LED will be off.
See Figure B.5

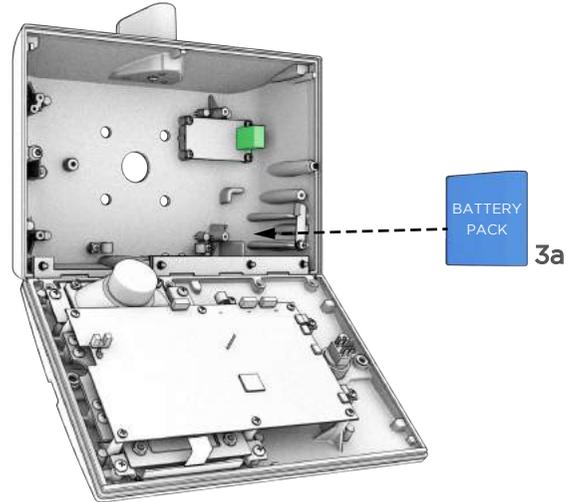


Figure B.3 - Place the Battery Pack

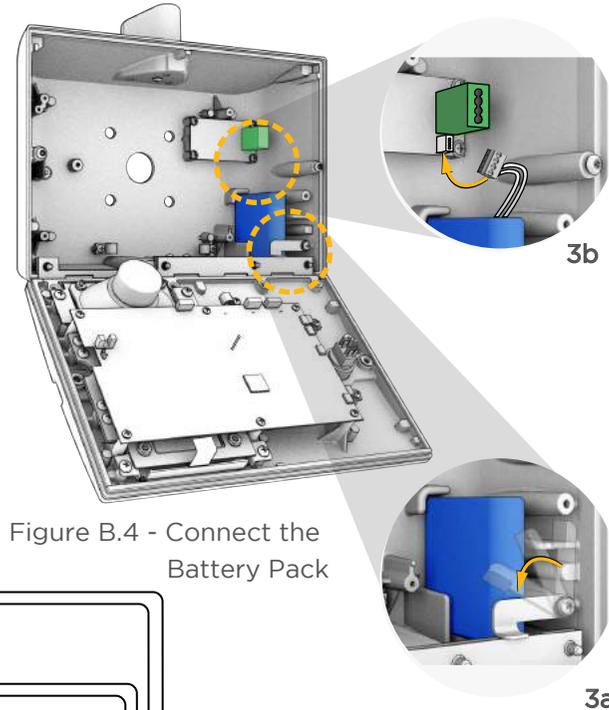


Figure B.4 - Connect the Battery Pack

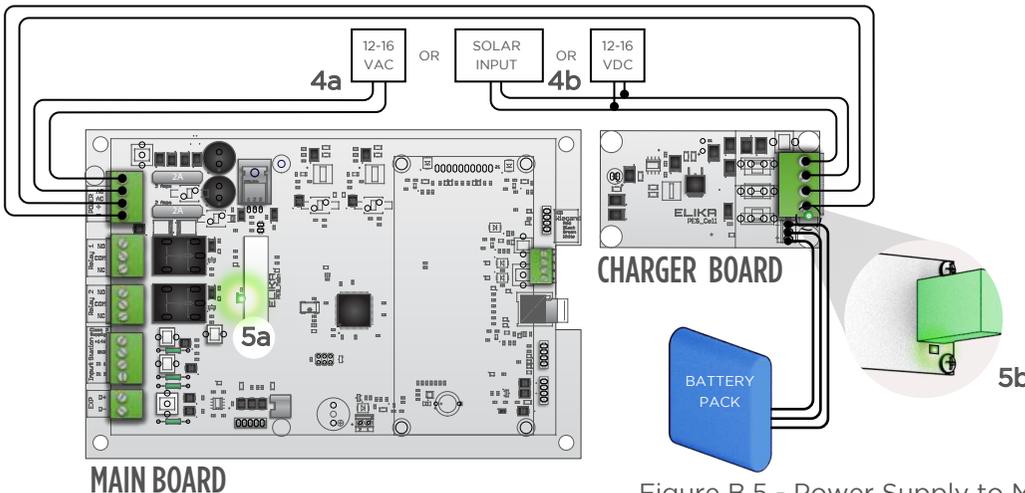


Figure B.5 - Power Supply to Main Board

CELL BOARD INSTALLATION:

1. **PREPARE THE MAIN BOARD**
 - a) Remove the power connector from the Main board
 - b) Remove the Main Board in order to access the antenna cap screw.
See Figure C.1

2. **ANTENNA INSTALLATION**
 - a) Remove the antenna cap
 - b) Install the Coaxial cable for the Cell Board (Use the front most location for the cell antenna)
 - c) Secure the antenna
 - d) Reinstall the antenna cap
See Figure C.2
 - e) Reinstall the Main Board
See Figure C.1

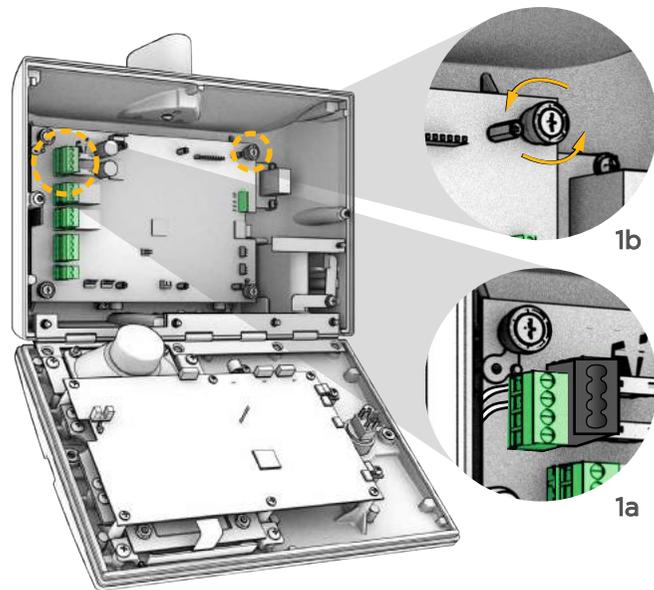


Figure C.1 - Main Board Removal

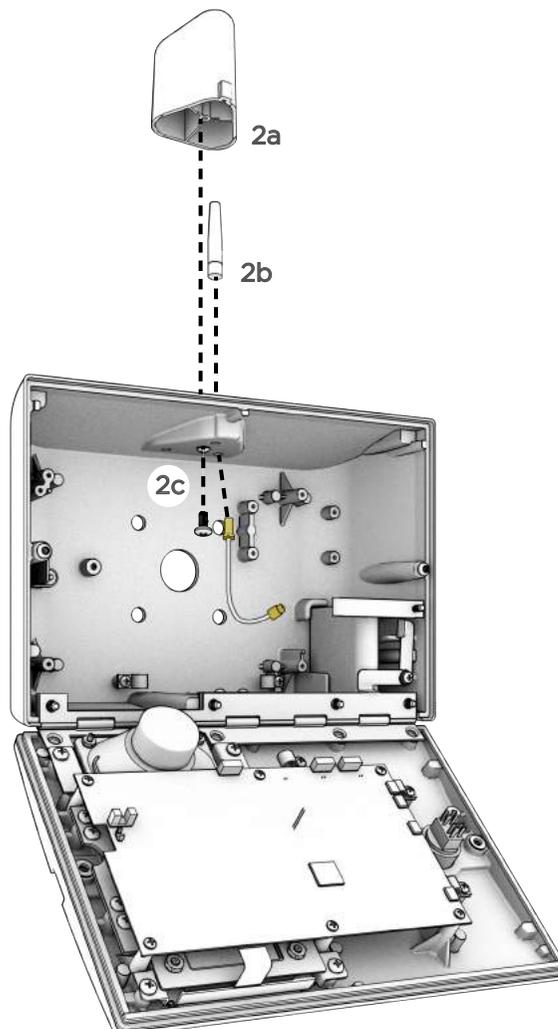


Figure C.2 - Cell Antenna Installation

APPENDIX C:

CELL BOARD INSTALLATION:

3. INSTALLING THE CELL BOARD

- a) Connect the Coaxial cable to the Cell Board
See Figure C.3
- b) Install the Cell Board onto the Main Board and secure it with the hardware provided
See Figure C.4

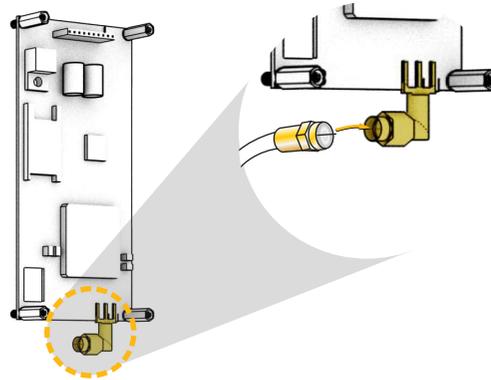


Figure C.3 - Installing the Coaxial Cable

4. CONNECTING THE CELL HARNESS

- a) Connect the Cell Harness between the Cell Board and the Front Board
See Figure C.5
- b) Reconnect the power connector in the Main Board
See Figure C.6
- c) Verify that the Power, SIM, and Data LEDs are illuminated on the Cell Board after the power up initialization time
See Figure C.6

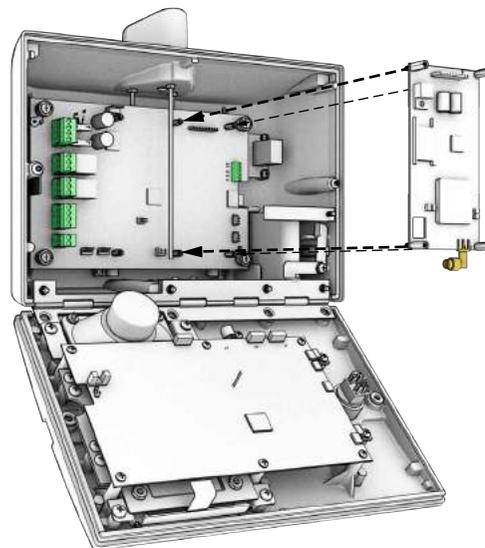


Figure C.4 - Installing the Cell Board

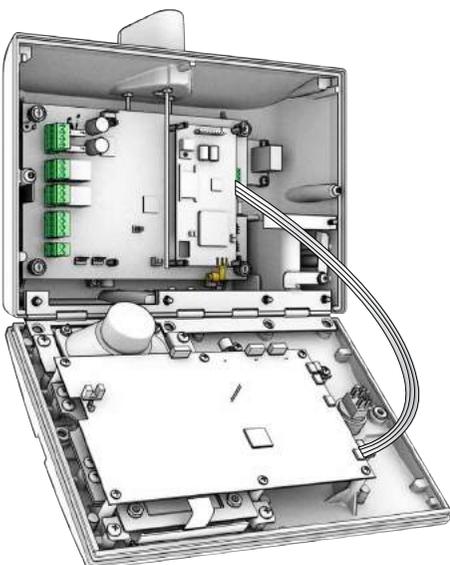


Figure C.5 - Connecting the Cell Harness

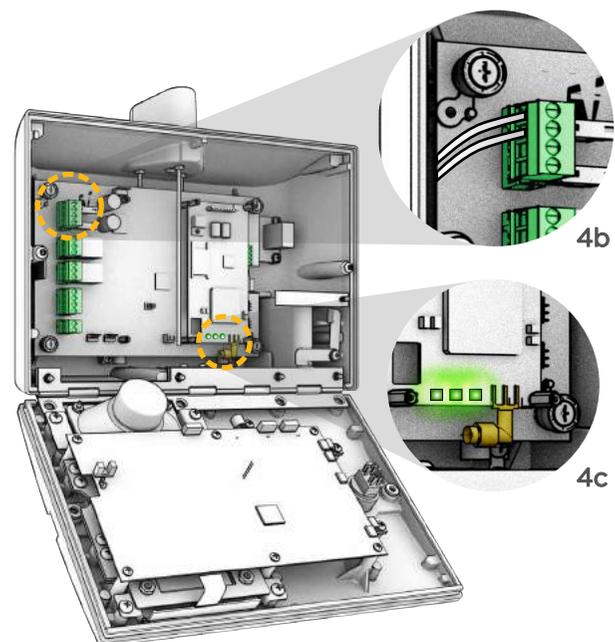


Figure C.6 - Main Board Reconnection

VoIP BOARD INSTALLATION:

- 1. **PREPARE THE MAIN BOARD**
 - a) Remove the power connector from the Main Board
 - b) Remove the Main Board in order to access the antenna cap screw
See Figure D.1

- 2. **ANTENNA INSTALLATION**
 - a) Remove the antenna cap
 - b) Install the Coaxial cable for the Wi-Fi connectivity
 - c) Secure the antenna
 - d) Reinstall the antenna cap
See Figure D.2
 - e) Reinstall the Main Board
See Figure D.1

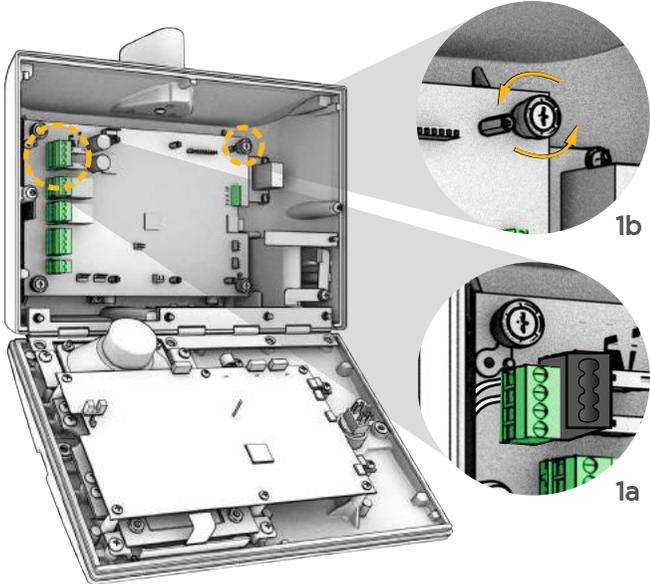


Figure D.1 - Main Board Removal

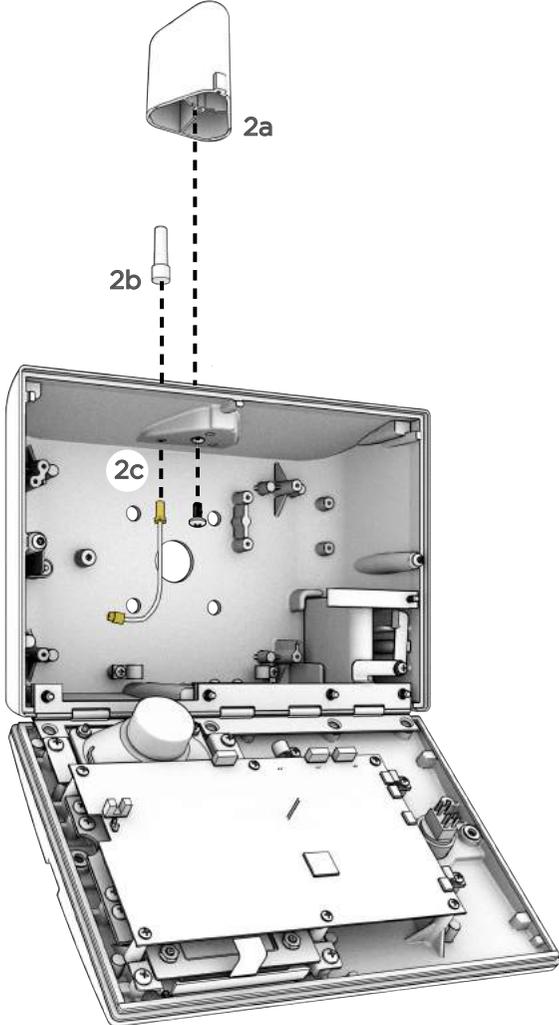


Figure D.2 - VoIP Antenna Installation

APPENDIX D:

VoIP BOARD INSTALLATION:

3. INSTALLING THE VoIP BOARD

- a) Connect the Coaxial cable to the VoIP Board
See Figure D.3
- a) Install the VoIP board onto the Main Board and secure it with the hardware provided
See Figure D.4
- c) Connect the Ethernet cable (if available) onto the VoIP Board
See Figure D.5

4. CONNECTING THE VoIP HARNESS

- a) Connect the VoIP Harness between the VoIP Board and the Front Board
See Figure D.5
- b) Reconnect the power connector in the Main Board
See Figure D.6
- c) Verify that the Power, Wifi, ENET, and Data LEDs are illuminated on the VoIP Board after the power up initialization time
See Figure D.6

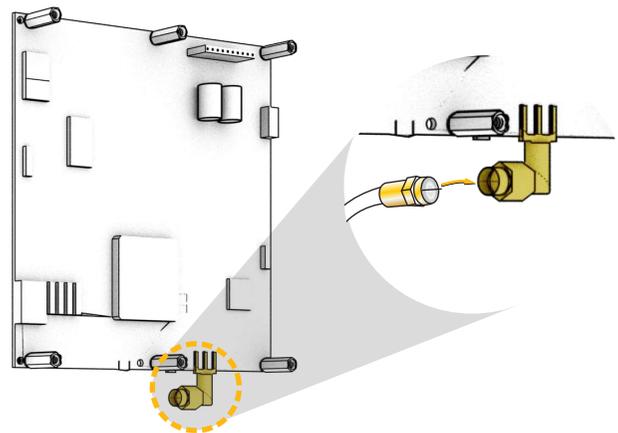


Figure D.3 - Installing the Coaxial Cable

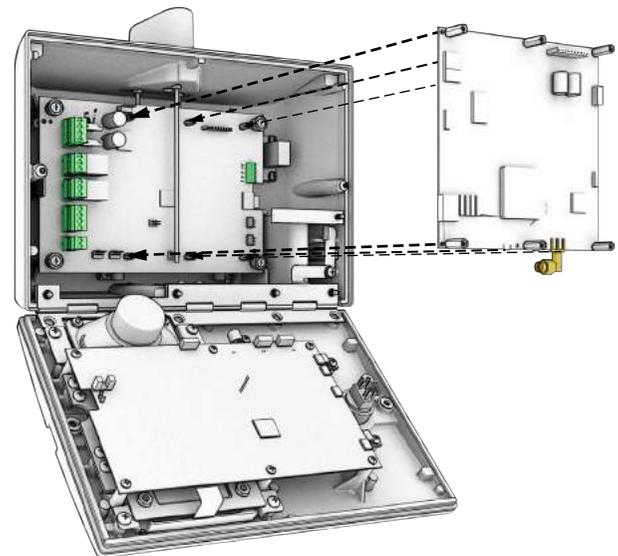


Figure D.4 - Installing the VoIP Board

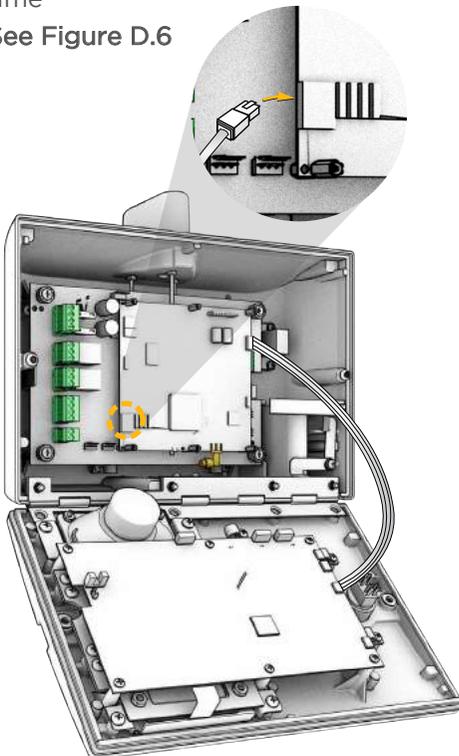


Figure D.5 - Connecting the VoIP Harness

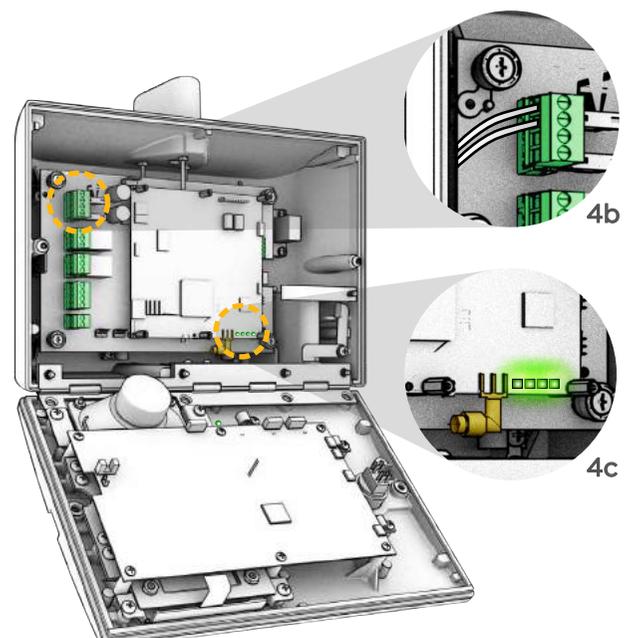


Figure D.6 - Main Board Reconnection

BLUETOOTH BOARD INSTALLATION:

1. **PREPARE THE MAIN BOARD**
 - a) Remove the power connector from the Main Board
 - b) Remove the Main Board in order to access the antenna cap screw
See Figure E.1

2. **ANTENNA INSTALLATION**
 - a) Remove the antenna cap
 - b) Install the Coaxial cable for the Bluetooth connectivity
 - c) Secure the antenna
 - d) Reinstall the antenna cap
See Figure E.2
 - e) Reinstall the Main Board
See Figure E.1

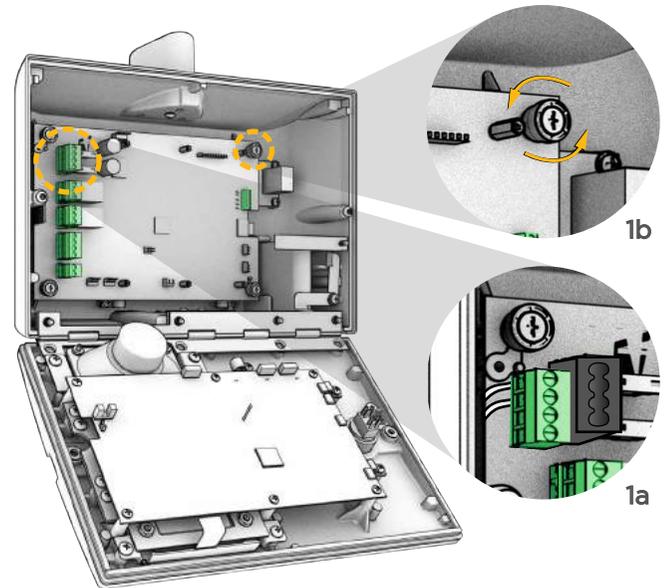


Figure E.1 - Main Board Removal

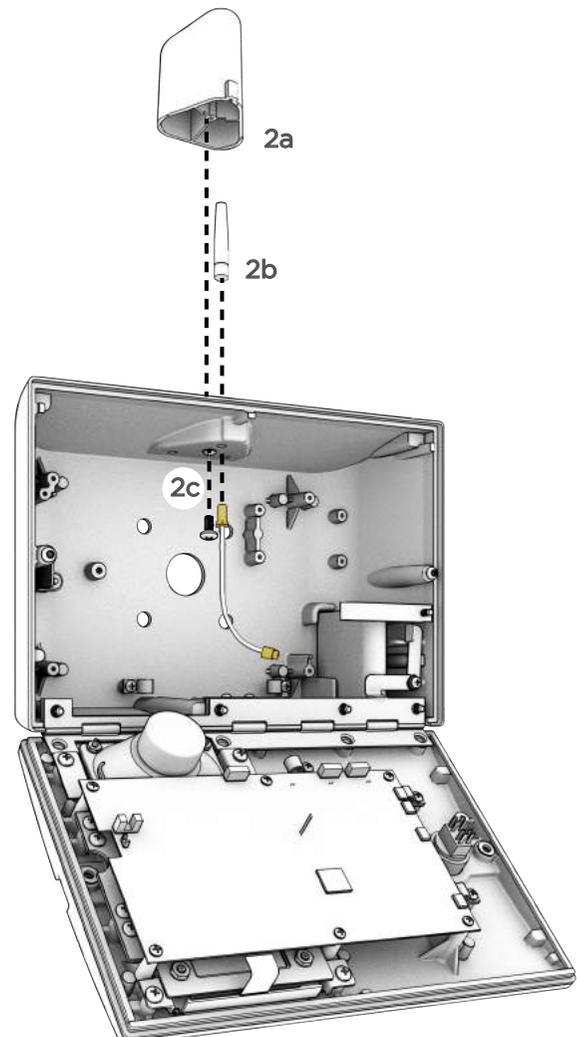


Figure E.2 - BLE Antenna Installation

APPENDIX E:

BLUETOOTH BOARD INSTALLATION:

3. COAXIAL CABLE INSTALLATION

- a) Connect the Coaxial cable to the Bluetooth Board
See Figure E.3

4. INSTALLING THE BLE BOARD

- a) Install the Bluetooth Board into the Front Board
See Figure E.3

5. RECONNECTION

- a) Reconnect the power connector in the Main Board
See Figure E.4

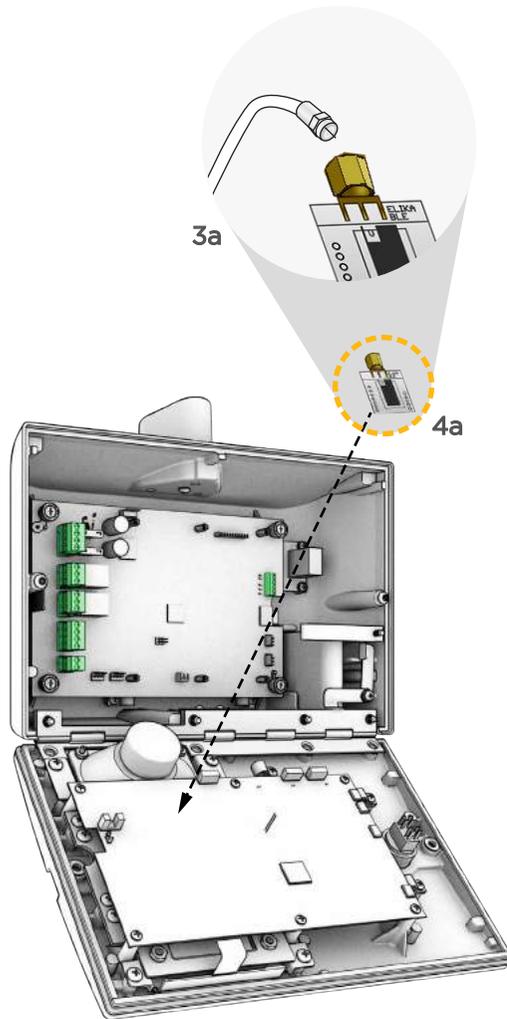


Figure E.3 - Installing BLE Board

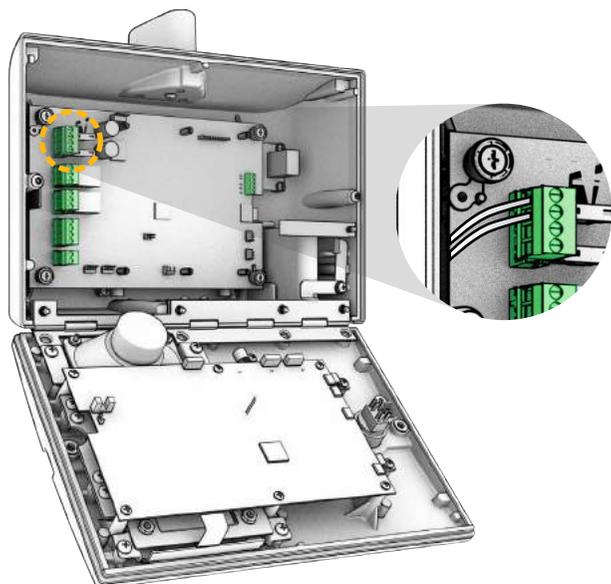


Figure E.4 - Main Board Reconnection

CAMERA INSTALLATION:

1. PREPARE THE FRONT BOARD

- a) Remove the power connector from the Front Board
See Figure F.1
- b) Remove all other accessible harness from the Front Board, be careful with removing the LCD flat cable
See Figure F.1
- c) Gently remove the LCD backlight connector and the flat cable as to not cause damage to the connector or cable.
See Figure F.1
- d) Remove the keypad cable

2. REMOVE THE FRONT BOARD

- a) Be careful with the exiting connections and wire harnesses already in place
See Figure F.2

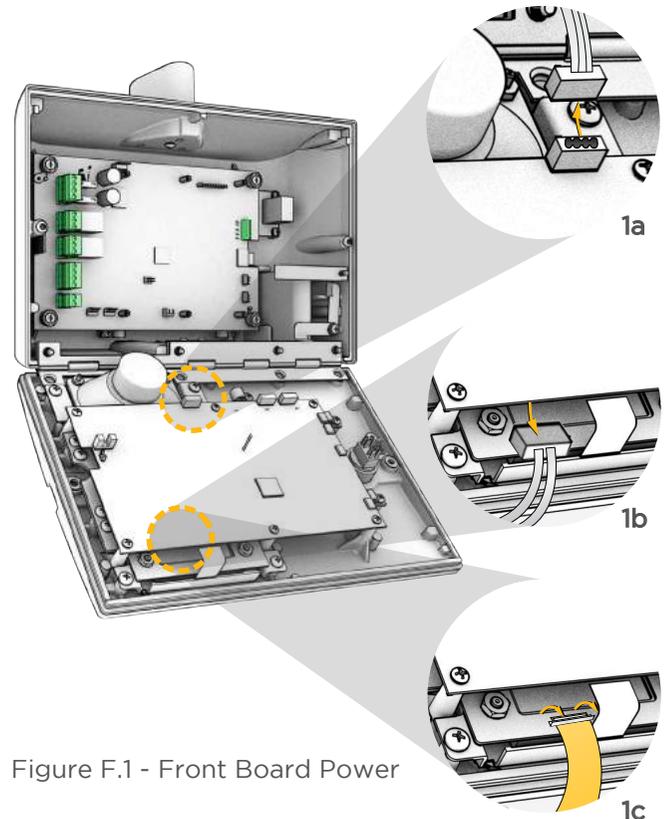


Figure F.1 - Front Board Power

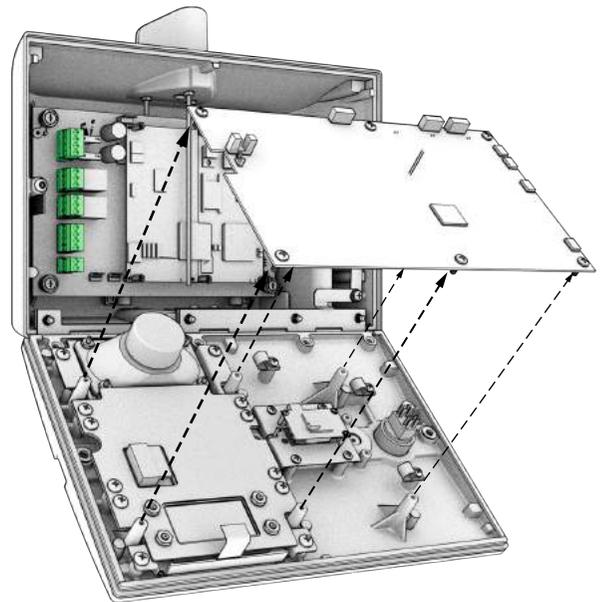


Figure F.2 - Remove front board

APPENDIX F:

CAMERA INSTALLATION:

3. INSTALL THE CAMERA MODULE

- a) Secure the camera with the hardware provided
See Figure F.3

4. REINSTALLING THE FRONT BOARD

- a) Reconnect the keypad cable
- b) Reconnect the LCD cable and the backlight connector
- c) Reinstall the Front Board and connect the Power Harness
See Figure F.4
- d) Connect the Camera Harness and any other harness back onto the Front Board
See Figure F.4
- e) Connect the Power Connector from the Front Board.

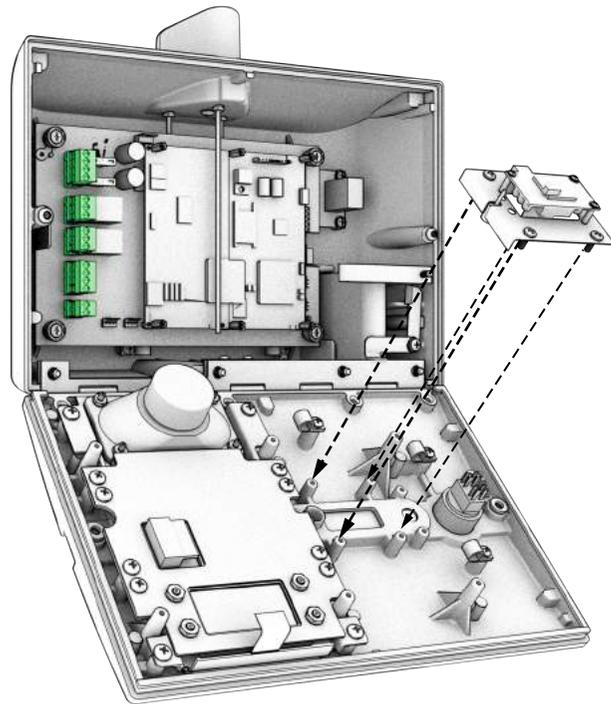


Figure F.3 - Place the camera

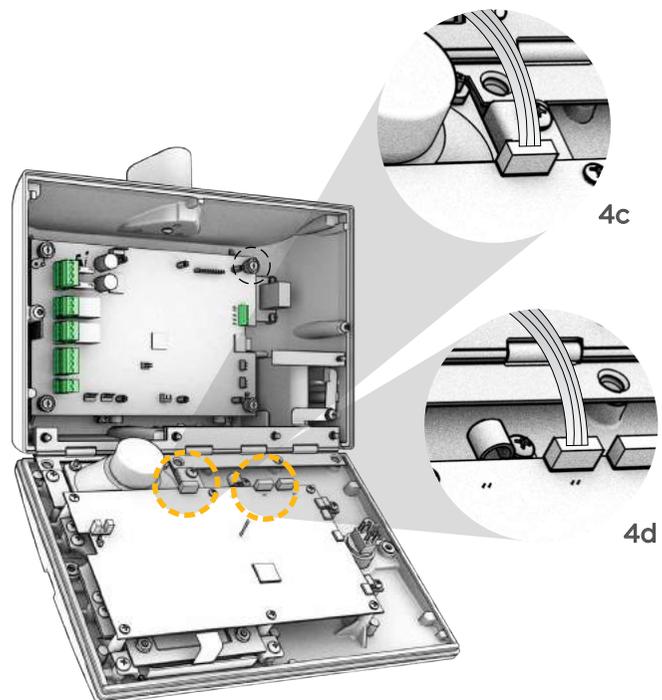
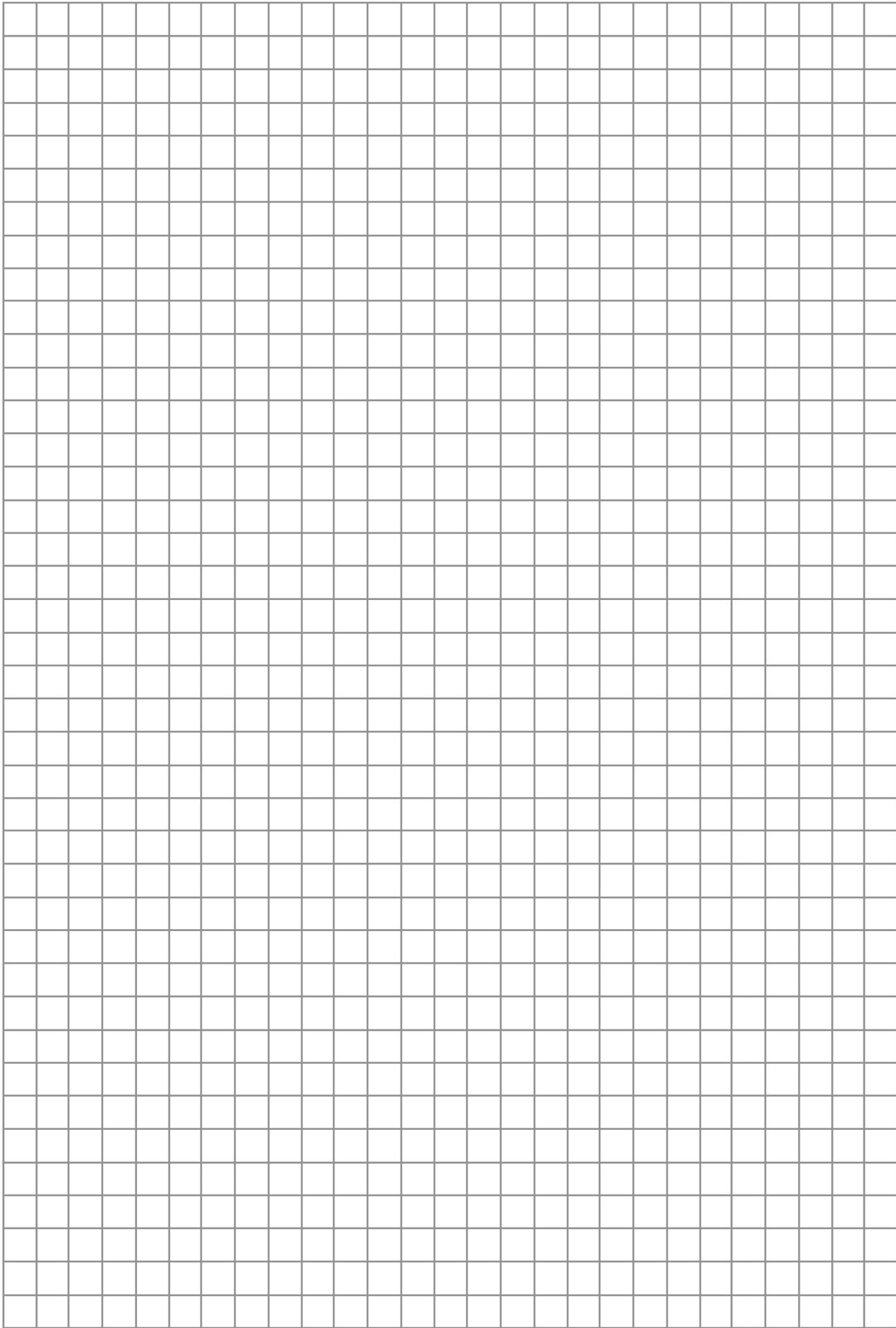
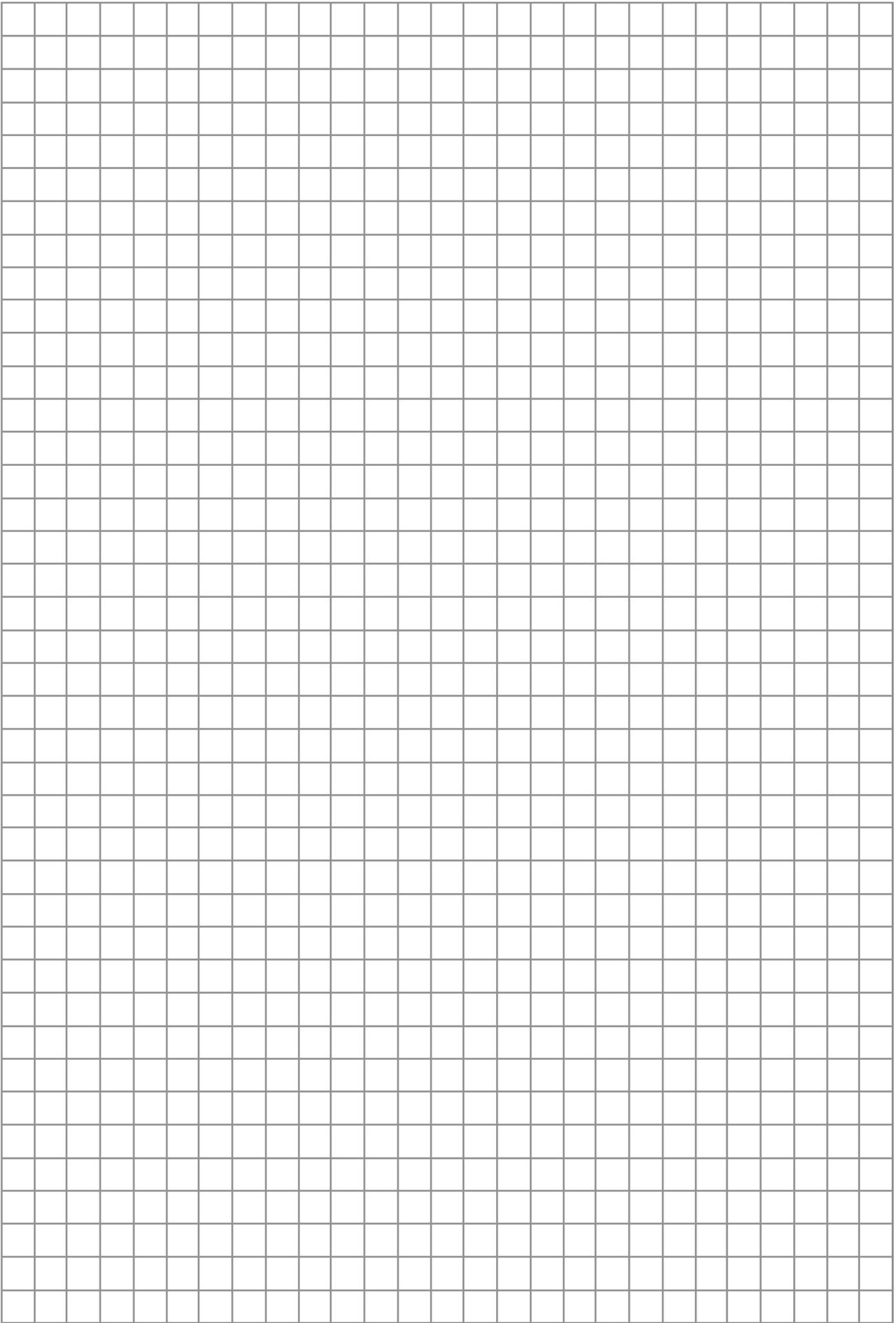


Figure F.4 - Front Board Reconnection





OUR CONTINUOUS COMMITMENT TO EXCELLENCE

Elika Access Systems is committed to advancing the industry through the highest quality standards, state of the art technology and the simplest user interfaces available. We stand behind all of our products and offer full support whether you are a distributor, installer or end user. Not only are we going to change how you look at access control, but we have set a new benchmark within the industry. Our systems do not just offer advanced features, they offer simple solutions.



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